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A COMMITMENT TO PLACE

The Social Foundations of Innovation in Newfoundland and Labrador

Rob Greenwood and Candice Pike
with Wade Kearley
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Glossary of Acronyms

ACOA	Atlantic Canada Opportunities Agency
CFA	Come-From-Away (broadly applied term used to identify individuals from outside Newfoundland and Labrador)
CNA	College of the North Atlantic
CSC	Community Sector Council
ESDA	Eastern Suppliers Development Alliance
HEA	Humber Education Alliance
INTRD	Provincial Department of Innovation, Trade and Rural Development
ICAN	International Communications and Navigation
IRIF	Industrial Research Innovation Fund
ISRN	Innovative Systems Research Network
IOC	Iron Ore Company of Canada
LGBTQ	Lesbian, Gay, Bi, Trans, Queer/Questioning
MCRI	Major Collaborative Research Initiative (see SSHRC MCRI below)
MUN	Memorial University of Newfoundland
NBC	Newfoundlander by Choice
NL	Newfoundland and Labrador
NOIA	Newfoundland Ocean Industries Association
NATI	Newfoundland Alliance of Technical Industries
NEIA	Newfoundland Environmental Industries Association
NGO	Non Governmental Organization
NRC	National Research Council
NSERC	National Science and Engineering Research Council
OECD	Organisation for Economic Co-operation and Development
PCs	Progressive Conservative Party
PRAC	Petroleum Research Atlantic Canada
REDB	Regional Economic Development Board
SSHRC MCRI	Social Science Humanities Research Council Major Collaborative Research Initiative

Executive Summary

Innovation and creative capacity are at the very foundation of regional economic development. Competing in the international knowledge-based economy demands products, services and processes that are better—in quality and/or price—than those produced elsewhere. Businesses, entrepreneurs, and creative workers must be able to access information on better ways of doing things, and develop their own unique approaches, if a region is to maximize its development potential.

This report draws from research in Newfoundland and Labrador (NL) that was part of a national project on the Social Foundations of Innovation in City Regions, led by David Wolfe at the University of Toronto. The national project highlighted how innovation, talent attraction and retention, and governance are linked in providing the foundations for economic competitiveness. All too often research on policy and practices for economic development focuses on the activities of individual firms, their markets, technology and access to capital, without acknowledging the social factors that create the conditions for economic success.

For this project, researchers interviewed business owners and managers, but they also interviewed highly skilled workers, human resources professionals, and elected and unelected officials in all three orders of government and a range of non-government community and industry organizations (NGOs). They also interviewed researchers and staff with a role in supporting innovation and development at regional colleges and universities.

The national project conducted research in 15 urban regions of varying sizes of population. The research in NL expanded beyond the original parameters of the Wolfe study to look not only at the St. John's region —the only NL location originally included in the national study—but to also look at three smaller urban centres including the Clarenville region, the Corner Brook region, and the Labrador West region. These would be considered rural or remote centres within the national project. By including these smaller urban – or rural – centres (ask small communities near Clarenville and they would call it urban), researchers hoped to understand how innovation, talent attraction and retention, and governance would compare in the same research and analysis conducted across the country.

The national study of urban regions emphasised that innovation comes down to how sharing of information between and among companies or organizations, within sectors and across sectors, is conducted in a region, and also to how regional economic players access information from outside the region. The driving assumption is that the innovation process is people communicating with people in a social process. And through this interaction the economic players in a given region build social capital and trust. Trust is a basic condition for letting down your guard, thinking of what colleagues may need to succeed, and getting together to brainstorm. Put another way, trust greases the wheels of information-sharing. Other business and technology facets of innovation, such as investment, marketing, research and development, intellectual property rights, etc. are all critical, but social processes that facilitate trust and communication underpin them. This report, *A Commitment to Place: the Social Foundations of Innovation in Newfoundland and Labrador,* explores the nature of that interaction among businesses, skilled and creative workers, governments and NGOs in four NL urban regions, and seeks to determine the social dynamics and relationships that drive development.

All the regions investigated had a limited number of key economic sectors, and only the St. John's region, with its broadly-defined and sophisticated ocean-technology sector showed evidence of a cluster[1]. The St. John's ocean technology cluster demonstrates the classic characteristics of a successful innovation cluster with sharing of information among its members and with shared global connections. Clusters as defined by the national study were non-existent in the other NL regions but there was much more evidence of sharing across sectors in those centres than there was in the St. John's region.

The drivers for regional innovation depend on interactive, social learning between all the economic players in a region. The analysis in this report follows the model of the national study on innovation by exploring three specific dimensions or themes of social dynamics and their relationship to the economic health of urban regions:
- The social nature of the innovation process
- The social foundations of talent attraction and retention
- Governance – including governments and NGOs, and processes of social inclusion and civic engagement

These three themes of social interaction in urban regions are the foundations on which rests the economic growth of those regions in the global economy.

Theme 1: The Social Nature of Innovation
As pointed out by Wolfe, in Canada, with its diverse and strongly differentiated regional economies, the crucial factors underlying national prosperity are the relationships between economic players, organizations, and institutions "at the local and regional scale." Furthermore, research into the role of creativity in the economy has identified urban regions as drivers of innovation. Accordingly, it is the social dynamics of these urban regions that are central to innovation and the growth of the economy.

In NL, one unique and negative factor is the lack of labour mobility between companies in all sectors except ocean technology in the St John's region, and in every sector in the other three regions. This is related directly to the limited number of competitors in any given sector within the region. This limits the opportunities for workers with specialized skills to move from company to company. And this in turn slows innovation because such movement of employees between companies is one of the ways in which the flow of knowledge stimulates innovation. Employers may see this lack of movement as desirable in the short term because their employee turn-over is low. But in the long term, this type of knowledge stagnation hinders the competitiveness of the business, the sector, and the region.

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[1] Cluster is used here in the sense dictated by the language of the Wolfe Project. So, although "cluster" has also been used more liberally by other researchers to describe the two-way business linkages found in the Clarenville, Corner Brook and Labrador West regions, this report uses the terms "sector" and "network" to describe them.

2 Ann-Marie Vaughan conducted this work in conjunction with her doctoral studies at the University of Calgary.

The fact that no clusters were identified in the three smaller urban centres in NL is due to the limited number of specialized businesses in each sector for those regions. However, this presents a unique opportunity, if not a necessity, for other processes of knowledge sharing. With few or no other specialized firms in their sectors, skilled and creative workers indicated that they talked to people outside their sector more. That can inspire new ideas, glean new approaches to be adapted to your sector, or lead to innovative business partnerships.

In the literature, this phenomenon of cross-sectoral communication is argued by some as driving innovation in the downtown cores of larger urban centres. As a small-urban regional strategy, ironically, knowledge exchange across sectors could create unique opportunities for innovation as companies and skilled workers go outside their comfort zone to look for new ideas and opportunities. Indeed, this may be a strength best suited to small urban regions, as much of the research in large urban centres demonstrates that most information sharing occurs within sectors or clusters.

Two emerging networks in the smaller urban regions were identified but do not qualify as clusters under the national definition. The first is the Eastern Supplier Development Alliance in the Clarenville region and the second is the Western Metal Working Network in the Corner Brook region. These groups are attempting to foster greater collaboration among regional businesses in their sectors and have some positive results to report, but both are in the early stages and have yet to demonstrate sustainable relationships.

Several location-specific factors were identified through the NL interviews as impeding information sharing and collaboration. An important factor perceived to be limiting the competitiveness of the Clarenville region is its proximity to the St. John's region. Most of those interviewed felt that competing with the capital region, with its oil industry activity and ocean technology cluster, was too difficult. In the course of the research, however, many economic development advocates increasingly promoted opportunities for businesses in Clarenville to join industry and cluster organizations in the capital and leverage their proximity rather than approach it as competition.

In the Corner Brook region, with its resource and industrial history dominated by the paper mill, tight social networks have developed that are perceived as resisting information-sharing beyond their current social connections. This is attributed by interviewees to a lack of trust and to a resistance to collaboration. Another critical factor perceived as inhibiting the exchange of knowledge in the Corner Brook region was the control by older entrepreneurs nearing retirement who are more likely to be risk averse, particularly when it comes to existing businesses adopting new technology or entering new markets.

The presence in Labrador West of giant, highly-specialized mining companies means many global best practices in knowledge sharing and the application of knowledge within the mining sector are implemented as a matter of course. But interviewees indicated that there is an insider/outsider divide. Those people who do not work for the big companies are "on the outside looking in" when it comes to accessing this wealth of international know-how.

One common concern in all three urban centres outside St. John's was a call for greater university and college supports to enhance the flow of knowledge.

Theme II: Talent Attraction and Retention

All the NL urban regions were seen by those interviewed as benefitting from a safe environment in which to live and work. There is easy access to nature and outdoor recreation and to affordable housing (though as prices climb this is increasingly less an advantage).

The urban centres outside the St. John's region reported that smaller size has its disadvantages with a relative lack of diversity in the population and the limited amenities and specialized services available. Limitations in available health care services were perceived as a negative factor in attempts to attract and retain new residents.

Unlike any other centres in Canada—subject to review of the final Wolfe project findings across the country—each of the interviewees in NL centres identified strong personal attachments to the province or the regions as key to attraction and retention. Interviewees for this project often raised the notion of "home" as a reason respondents chose to live and work in a familiar place where they feel a sense of belonging. This compulsion was even reported by some non-native Newfoundlanders and Labradorians who felt integrated into the strong, supportive local social networks. Indeed, among St. John's region technology companies, interviewees reported that attracting skilled employees is not always easy but one of their most successful methods is the use of personal networks, especially Memorial University alumni who have moved to national or international locations. Interviewees also reported that once they get expatriates home, it is much easier to keep them here than it is to retain immigrants.

Another factor that may have a positive impact on the return of local emigrants is one based on unique corporate strategy. The technology entrepreneurs interviewed for this report identified as a corporate mission the attraction of young Newfoundlanders and Labradorians back to the province.

Whether in response to personal desire to return home or to the "bring them home" mission of technology companies, this return of locals to each of the urban centres led one Toronto researcher to observe that NL enjoys a "hidden diversity." What he meant was that, although there may be a limited number of people from different national or racial origins, there are many Newfoundlanders and Labradorians who have studied and worked abroad and who have returned to NL with new knowledge of markets and products and processes in their chosen sectors. They also return with their own international networks. These factors make a substantial social contribution to innovation.

In the arts and academic sectors in the St. John's region, however, interviewees revealed the inescapable influence of scale in negatively impacting opportunities by imposing economic limits on the success of any endeavour. Interviewees reported that while they liked living here they see it as a staging ground for larger centres like Halifax, Toronto, New York and beyond if they are to advance their careers.

Theme III: Governance and Inclusion
The economic performance of urban regions depends on their ability to generate effective new forms of governance and collaborative leadership. Businesses, research institutions, skilled and creative workers, all depend on specialized infrastructure, they all benefit from supportive regulatory environments set by municipal, provincial, and federal governments, and they are all part of a community that fosters security, a desirable quality of life and a sense of belonging and identity – or not.

Researchers for this project asked interview participants about their perceptions of all levels of governments and NGOs in their regions, and how well they contributed to the conditions required for innovation, collaboration, and creativity.

Labrador West is seen as an easier urban region to manage because of the nature of the economy, its population, and the limited number of communities included. Interviewees felt that there was strong collaboration across all levels of government and they felt municipal leadership is effective as is the leadership of economic and social NGOs, including but not limited to the Regional Economic Development Board (REDB), the Chamber of Commerce, the tourism corporation, women's organizations, the francophone association, and the successful group initiative for affordable housing.

In the Corner Brook region, collaboration among the three levels of government is good but networking in the community and collaboration among NGOs is considered to be weak. This was attributed to a number of causes including the perception of competing mandates, the presence of too many players at the table, and the thorny issues of local politics when new initiatives are introduced. Interviewees felt that there was a need for stronger local leadership and more regional cooperation if regional planning is to be more effective.

Interviewees in the Clarenville region, like those in Corner Brook, were satisfied with the level of collaboration among the federal, provincial, and municipal governments. They also expressed satisfaction with regional partnering in economic development activity whether that was driven by government departments or NGOs. However they ranked as very weak the level of municipal planning and the regional cooperation among communities.

Because of its size and the number of larger communities included in the St. John's region, the governance model reflected a greater complexity. Among the issues which interviewees felt inhibited good governance were the federal-provincial political battles and their inevitable impact on collaboration among regional officials. At the municipal level, local governments have a long-standing resistance to shared governance, fearing of amalgamation by another name, although they do have shared planning and services on the Northeast Avalon. This resistance may be compounded by the City of St. John's strategic plan which contains an explicit goal to amalgamate with some of its neighbours. This stated goal was repeatedly raised by interviewees as one which undermines trust and hinders greater collaboration.

There was a strong perception among most of those interviewed in the St. John's region that municipalities in the region, as indeed in the rest of the province, are sidelined as a matter of course by the provincial government which, they believe, stifles municipal and regional economic development by denying the resources that councils and REDBs need to fulfill their mandates.

Unlike municipal and REDB efforts, two outstanding successes in the region reflect the capacity of local governance: ocean technology and NGOs in the social sector. Collaboration in ocean technology has contributed to the creation of the only true economic cluster in the province. In this instance, federal, provincial, and municipal policies and initiatives appear to be aligned with those of the university, the college, and industry associations. There was debate among interviewees about whether the cluster is industry or government driven, but all agreed the cluster is working.

> All four regions studied in NL demonstrated the significance of commitment to place. Almost without exception, people interviewed in the private, community, and public sectors spoke of their sense of home and belonging as a prime driver to live and work where they are.

In contrast to the lack of organizational capacity and collaboration identified by interviewees in urban centres outside the capital region (and the lack identified by municipalities and REDBs in the St. John's region) interviewees within the social sector in the St. John's region singled out ten to fifteen key individuals within the community of NGOs who are respected for their vision and their ability to take action and get results. Under their leadership the NGOs within the capital city are building coalitions, strengthening their networks and making the most of the Provincial Government's Poverty Reduction Strategy and other government programs to fund their organizations and build an innovative and collaborative social services sector. This can be seen as a model of new collaborative governance where the provincial government plays a role in policy and providing resources, but looks to locally-based organizations which are flexible and responsive to community needs, to take the lead in implementation. It is an example the provincial government could emulate with municipalities, REDBs and other local organizations.

This project highlights the fact that innovation and creativity can and should be understood and advanced in urban and rural regions alike because, in both contexts, they exert a positive influence on the regional economy.

The urban centres studied in NL—which would be considered rural in the national study—impose real limitations due to their small scale. Developing clusters, attracting and retaining skilled workers, accessing knowledge and research capacity from universities and other research and development institutions, are all bigger challenges for smaller urban centres. The St. John's region, considered a small urban area in the national project, faced similar challenges due to scale in retaining highly-trained and creative workers in the arts and academic sectors. Yet the ocean technology cluster in St. John's demonstrates that a relatively small urban centre can succeed in building a cutting-edge, globally competitive, innovative industrial and learning system.

The three smaller urban centres demonstrated significant success in creating a high quality of life for their residents through a range of resource-based and service sector activity. It appears that the farther from St. John's, the better the level of collaborative regional governance. That may be due, at least in part, to the benefits of distance which remove local governance from the federal and provincial political battles in the capital, allowing local leaders to focus on the job at hand. The two obvious exceptions to this rule are the St. John's ocean technology cluster and the innovative social sector NGOs in the capital. In fact, so exceptional are those social sector NGOs in St. John's that municipal and regional development organizations in all regions of the province can learn from the trust and collaboration they practice on an ongoing basis.

All four regions studied in NL demonstrated the significance of commitment to place. Almost without

exception, people interviewed in the private, community, and public sectors spoke of their sense of home and belonging as a prime driver to live and work where they are. Some "CFAs" reported that sense of belonging could be hard to break into, although many noted they were "Newfoundlanders by choice" (NBCs). And while visible minorities remain relatively few compared to Canada's largest urban centres, the high numbers of "been aways"—people from the province who have returned after studying and working away—introduces a rich hidden diversity of knowledge and contacts from which to draw innovative and creative ideas and opportunities.

The biggest deficiency in the province (perhaps fortunately) to achieving the conditions identified by the national project for innovation and competitiveness, is governance. It is fortunate because this is within our power to change. It is a product of decision making, not one of natural attributes or rare sectoral expertise or even money. And while political culture is difficult to change, it can be done. The ocean technology cluster and St. John's social NGOs are proof that it can and does happen. And almost all those interviewed for the governance theme recognized that greater local capacity was needed to succeed. Municipalities, REDBs, and other local organizations are crying out for a greater role in fostering the conditions to drive the economy. The social foundations of innovation may find a unique opportunity to take hold in the regions of Newfoundland and Labrador if the existing strengths are exploited and the current weaknesses addressed.

Preface

Methodology

This project, The Social Foundations of Innovation in Newfoundland and Labrador (hereafter "the project") began during the second Social Science Humanities Research Council of Canada, Major Collaborative Research Initiative (SSHRC MCRI) awarded to the Innovation Systems Research Network (ISRN) in 2006. The ISRN had previously been awarded an MCRI to study cluster-driven innovation in Canada. This project leveraged the network of researchers and the body of work built by the initial study to focus on innovation and creativity in Canadian urban regions.

The project's objectives were to look at urban regions to determine how knowledge was shared, to map the social dynamics of innovation, creativity, and social inclusion, and to examine civic governance. Spearheaded by David Wolfe and Meric Gertler at the University of Toronto, the project included 22 partners who investigated three themes in 15 city-regions across Canada, including St. John's.

The three themes on which the project focused its investigations are drawn from the Wolfe *Proposal* hypotheses (pp. 22-24) which proposes that the economic and creativity performance of city regions depends on three key characteristics which formed the basis for the three themes of this project:

Theme 1: The Social Dynamics of Innovation
- local knowledge circulation processes within individual industries/clusters
- local knowledge circulation among individual industries/clusters
- knowledge-based linkages between local and non-local economic actors.

Theme II: Talent Attraction and Retention
A set of characteristics that define quality of place and are related to talent attraction and retention. These include:
- cultural dynamism
- social diversity
- openness and tolerance
- social inclusion and
- cohesion.

Theme III: Governance and Inclusion
The ability to generate effective new forms of associative governance including, but not limited to:
- government
- collaborative leadership.

These three themes were the starting point for the NL-based research. But once the project was announced it soon expanded from the original plan to look beyond the St. John's region. Researchers at Memorial wondered what insights might emerge should these very urban ideas be investigated in NL's less densely populated areas—which have much lower population bases than any of the other

urban regions participating in the project and are more distant from other urban centres.

Current research into the social dynamics of economic performance often view the operations and values of large cities as the norm for economic success without giving credit to the achievements and unique circumstances of smaller cities (Hall, p. 8). This report uses the interview process developed for larger urban regions but only as a starting point for investigation. Investigators in this province theorized that smaller cities and rural areas have very different challenges and opportunities for economic success, with a unique flow of knowledge, levels of diversity, and ways in which various levels of government relate with each other.

The overall project in NL was led by Rob Greenwood, Director of the Leslie Harris Centre of Regional Policy and Development at Memorial University. Then-dean of Arts, Rita Tremblay, led research outside the St. John's region supported by Ken Carter of the Provincial Rural Secretariat. In St. John's, Ann-Marie Vaughan, Director of Distance Education, Learning and Teaching Support at Memorial University led the investigation into Theme I[2]; Josh Lepawsky of Memorial's Department of Geography led Theme II[3]; Rob Greenwood led Theme III[4].

In addition to support from the national project for the St. John's region interviews, they received support from the office of the Memorial University Vice President (Research), the provincial government's Industrial Research Innovation Fund (IRIF), and the Provincial Rural Secretariat. This funded the research outside the St. John's region and supported engagement and knowledge mobilization for the project in NL.[5]

An advisory committee assembled by the Harris Centre recommended that the project be extended to the regions of Clarenville, Corner Brook, and Labrador West—regional hubs that are geographically and economically different from the St. John's region and from each other.

To investigate the three themes, interviews were conducted with key individuals representing talented and creative workers, businesses and research organizations in leading clusters and sectors of the economy, NGOs, and governments. Interviewers followed an interview script but were free to guide the interviews in different directions to investigate any relevant tangents.

In the St. John's region, 26 interviews were conducted to investigate Theme I, 25 for Theme II, and another 25 for Theme III. The process was slightly different outside the St. John's region with most interviews featuring discussion on each of the themes and included 25 interviews in the Clarenville

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2   Ann-Marie Vaughan conducted this work in conjunction with her doctoral studies at the University of Calgary.
3   With Chrystal Phan and Rob Greenwood, Josh Lepawsky has published "Metropolis on the Margins: Talent attraction and retention to the St. John's City-Region." Since this report is a synthesis of the entire project, conclusions and information from Lepawsky, Phan, and Greenwood's paper are not separately cited throughout this work. Observations from Theme II research in St. John's are derived primarily from the publication by Lepawsky, Phan and Greenwood supplemented by interviews in Themes I and III.
4   Rob Greenwood prepared a chapter for a book emerging from this topic titled "Embarrassment and Riches: Good Governance and Bad Governance in the St. John's City Region." Conclusions and information regarding Theme III in St. John's are all drawn from that chapter in Bradford and Bramwell (forthcoming). However, because this work is a part of the larger project, details from the St. John's governance paper are not separately cited.
5   See http://www.mun.ca/harriscentre/reports/David_Speed_Report.pdf for an evaluation of the knowledge mobilization process in this and one other project by David Speed on behalf of the Harris Centre.

region, 32 interviews in the Corner Brook region, and 33 interviews in Labrador West.

Results from the interviews were presented to the advisory committees and selected community representatives from each of the four locations for feedback. This paper is informed by the interviews as well as the input from local advisory groups and individuals[6].

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6   Initial efforts to establish an advisory committee in Labrador West were postponed when the researcher in the area moved after conducting the first round of interviews. Several community representatives from the municipality, the Regional Economic Development Board and the Labrador Institute of Memorial University continued as key contacts in the region, but did not meet as an advisory committee.

Literature Review

Innovation, the Knowledge-based Economy, and Knowledge Sharing

A knowledge-based economy recognizes the role that knowledge, information, and technology play in increasing productivity and fostering economic growth (David and Foray, 2003). In highly competitive global economies, knowledge and innovation are increasingly necessary for economic growth.

Innovation can take many forms. Some may view innovation narrowly as the creation of new, cutting-edge products, services, or techniques. Others take a slightly wider view and see the application of these new products, services, and techniques to instances outside of their original purposes as innovation. Some people perceive the introduction of existing technology into a new area as innovative. And still others require an economic application before applying the term. This paper takes a broad view and focuses on innovation as the way in which knowledge is shared in a region to contribute to economic activity.

Sharing of knowledge due to geographic advantage is classified as local buzz, one of the two ways Bathelet et al. observe that knowledge flows in and out of businesses. Local buzz involves knowledge spill-over at the regional level when businesses are located in geographic proximity to each other. Local sharing of knowledge on markets, technology, and business processes occurs in many ways: movement of employees from one business to another; hiring of recent graduates; partnering of entrepreneurs and skilled workers on special projects; or even activities as simple as attending industry association meetings or meetings of the local chamber of commerce.

The second form of knowledge flow they observed is global pipelines. Global pipelines refer to the ties created by global research to knowledge centres around the world. Bathelet maintains that global pipelines are necessary to introduce new ideas and spur local innovation.

> The mobility of people between places is a key factor in the development of local creativity so that individuals who have "been away," can return to provide an influx of knowledge.

During an early presentation of the results of this project, University of Toronto researcher Greg Spencer identified NL's large transient population as "hidden" global pipelines and a source of diversity. He argued that the mobility of people between places is a key factor in the development of local creativity so that individuals who have "been away" can return to provide an influx of knowledge.

Proponents of knowledge flow through local buzz and global pipelines, say that it increases innovation through research and development and through trial and error (David and Foray, 2003).

Furthermore, regardless of how it occurs, the resulting increase in innovation results in an increase in economic performance (Wolfe & Bramwell, 2008).

With this variety of means to access a wide cross section of information, businesses and entrepreneurs can be considered the drivers of innovation. They draw on a large knowledge base to develop and diffuse new technology (Wolfe, 2006, 6). Without a strong knowledge base and the sharing of ideas, innovation stagnates, damaging the drivers of a knowledge-based economy. In response to this, Wolfe notes there is a clear economic benefit to research (Wolfe, 2006, 16). He says universities provide both basic and applied research as well as a skilled labour force, expertise, and both formal and informal technical support to local economies (Wolfe, 2006, 19). By providing this support, universities, as well as specialised research centres, are key to building regional economies (Porter, 1998). The issue now is exploring how to effectively transfer the knowledge obtained through this research to local businesses so they can capitalise on it (Porter, 1998, 19; David and Foray, 2008, 64).

> What is interesting about the Newfoundland and Labrador case is that Jane Jacobs' cross sectoral communication theory for larger urban centres may be in operation in smaller urban centres because there are so few players in each sector that they must work with one another.

Clusters

To better understand why geographical proximity is an important feature of economic development it is useful to explore the idea of "clusters." Harvard business professor Michael Porter, who popularized the idea of cluster-based development in recent years, defines clusters as:

> …geographical concentrations of interconnected companies, institutions, specialized suppliers, service providers, firms in related industries that combine to create new products and/or services in specific lines of business (Porter, 1998, 78.)

This, in turn, increases economic potential and, for proponents of this theory, is something communities should strive for. Porter argues that clusters improve local economies by increasing productivity, driving the direction and speed of innovation, and forming new businesses (Porter 1998, 80).

Yet, a counter argument exists that seems to hold true for some areas. Urban theorist Jane Jacobs argues that diversity, not clustered specialization, within an urban region can be the engine for innovation and growth (Jacobs, 1969, 59). Proponents of her argument suggest that in diverse communities local buzz occurs between businesses in *different* industries. This enhances innovation and growth by drawing on knowledge from one industry to fuel another. What is interesting about the NL case is that Jane Jacobs' cross sectoral communication theory for larger urban centres may be in operation in smaller urban centres because there are so few players in each sector that they must work with one another.

Wolfe and Bramwell argue that choosing either specialization or diversification will not solve the problem of economic stagnation. Instead it is more important to focus on developing a specialization in the "right" industry given that some industries are better adapted to the changing, global economic climate (Wolfe and Bramwell, 2008, 171).

The ISRN-MCRI study preceding this project found that clustering has made a difference to economic performance in Canada. The results of the study indicated that industries perform better on indicators such as employment growth, income, and unemployment when they are located in a cluster (Spencer, Vinodrai, Gertler and Wolfe, 2009, 23 – 24).

Talent Attraction and Retention: Jobs or Amenities Matter Most?

Related to the ideas of cluster-based development, and promoting growth and prosperity, many urban regions focus on increasing their population of highly skilled, educated, and creative individuals. This is also a priority for many rural areas intent on thriving in the current economic climate despite low birth rates, aging populations, and outmigration.

The literature suggests that places with more human capital (measured by education/training and occupation) thrive, while those that lack human capital stagnate or decline (see Florida, Mellander and Stolarick, 2008; Glaeser, 2005).

Challenging the long-held notion that job availability is the primary engine for growth in a city, urban-studies theorist Richard Florida argues that attracting and retaining a creative class that powers local creativity is essential for regional economic growth (Florida, 2002). Florida does not dismiss the notion that employment and wages are a driving force for city growth, but instead argues that businesses are locating where the talent is, not vice versa (Florida, 2004).

When discussing the attraction and retention of a diverse, creative, and skilled workforce for economic growth, this must include immigration as a key component. Florida, Mellander, and Stolaric note that tolerance (measured by the amount of diversity in an area) is, "significantly associated with both human capital and the creative class and also with regional wages and income," (2008, 617). The more open a region is to new ideas and people and the lower the entry barriers to the creative class, the more education and skills are likely to be retained in the area. While there are substantial advantages to immigration, achieving high immigration levels is dependent on difficult-to-address variables such as integration and public reception (Cook and Pruegger, 2003). Addressing these issues requires multilevel changes, from individuals to governments.

Richard Florida's ideas on the creative class and immigration are not without their critics. Geographer Allen Scott and others point out that jobs are a primary driver of talent attraction, not the other way around. And others are critical of Florida's methodology (for other examples of criticism see Scott, 2006; Daly, 2004; Lepawsky, Phan, and Greenwood, 2010).

Storper and Scott point out that Florida's claims do not explain how creative centres arise. Nor do they explain how they are sustained or how they transform cities (Scott and Storper, 2009). Scott had

earlier concluded that to attract individuals and to get them to stay in a particular location, adequate and appropriate jobs are essential (Scott, 2006).

This project examines how smaller urban centres fit into this often city-centric debate on the benefits of fostering human skill and creativity for economic prosperity. When applying these theories to real-world situations they all have limitations. For example, in the St. John's region, interview data indicates that while a creative class and cultural amenities are keys for growth, they were of little concern to individuals of the creative class who cited salaries and tax rates as their prime concern. Participants also pointed out, however, that the strong social networks in such a relatively small location can lessen the impact of job loss and lead to an environment of openness to experimentation.

Based on the findings of this project, it is clear that rural areas can compete in this new creative economy, but they must approach it differently than large, urban areas, taking into consideration their unique circumstances (Lovett and Beesley, 2010). The continuing significance of high-value natural resource industries was demonstrated clearly in the St. John's region with the oil and gas sector and in Labrador West with the mining sector.

Good Governance: More than Government

This research attempts to understand the process that fosters innovative regions where individuals and successful businesses provide the momentum for economic prosperity. Knowledge flow is one component. Attraction and retention of creative individuals is another component. But neither of these can exist without a solid underpinning of specific policies and effective governance structures and processes.

Government and governance are two different, though related, concepts. Government is the hierarchical structure of elected officials and bureaucracies. Governance is the process of making and carrying out decisions which can involve a wide variety of organizations from formal, elected governments to community-based and industry associations, their interactions, their decisions about where power and accountability lie, and the ways in which they relate to citizens (Graham, Amos, and Plumptre, 2003).

This holistic approach to governance in economic development is essential because, as Chaudhry et al. point out: "Good governance creates a good environment for investing . . . and leads to higher income, reduces poverty, and provides better social indicators," (2009, 338). They argue that groups other than government may have to play a stronger role than they currently do to address governance-related issues.

Such an approach to good governance is well suited to the new regionally-focused policy paradigm for economic development. It involves all levels of government along with non-state organizations (Wolfe, 2005). Recent articles on this topic agree that a new multi-level governance structure is necessary for regional economic success. For example, Wolfe and Creutzberg discuss some of the finer points of a variety of governance structures and reiterate that collaborative organizations are key. They also maintain that multi-level governance is a key in the current economic and political climate (2003).

In her work, Monica Gattinger also emphasizes the need for multi-level governance structures. She points out that Canada has under-developed multi-level governance systems, especially at the institutional level where there are no formal mechanisms for collaboration between federal, provincial, and municipal governments (Gattinger, 2008).

Creating a functional, collaborative system of governance in any region requires trust and social capital, especially in terms of a willingness to learn and the resources to do so (Wolfe, 2005). In a discussion of the issues with multi-level governance, Neil Bradford points out that cities, "demand *place-sensitive holistic* approaches" from the ground up. The best way to move forward, according to Bradford, is through place-based strategies (2004). Kevin Morgan agrees. He points out that less favoured rural regions still have an important role to play and working within a regional scale is key because this is where policies are put in action (2004). He says progress on these issues requires the creation of place-specific policies.

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Participating Regions

The following profiles of the St. John's, Clarenville, Corner Brook, and Labrador West regions are based on data compiled by Alvin Simms and Jamie Ward, (forthcoming). Each of the regions is introduced briefly below.
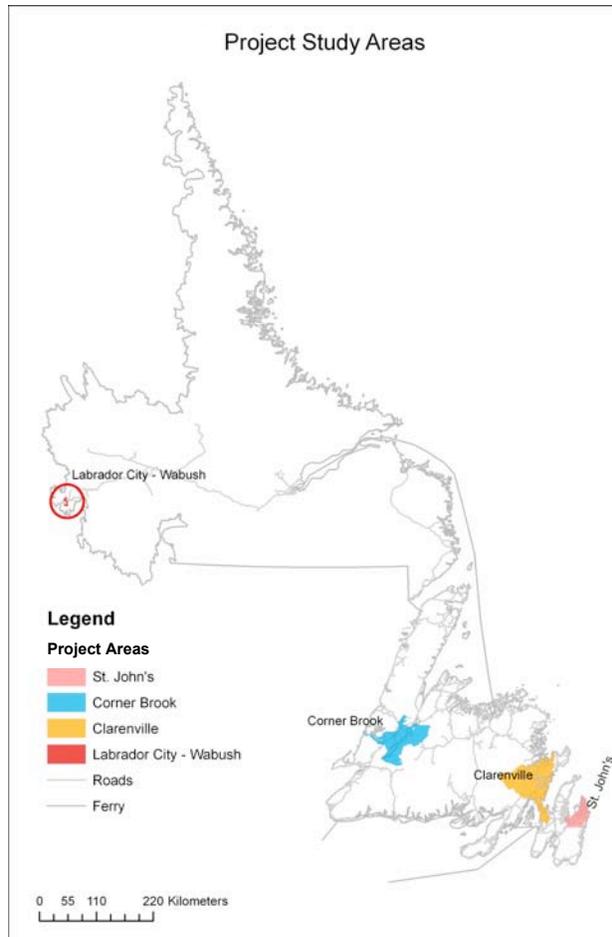
The St. John's Region

The St. John's region is Newfoundland and Labrador's dominant service centre and includes the capital city. The region, which includes 21 municipalities in the northeast Avalon Peninsula, had a population of approximately 184,000 in 2006 (of which 100,645 people lived in the Capital, making it the largest community in the province). Overall, there is diversification in industry and education. The offshore oil industry, the ocean technology cluster and Memorial University are significant economic drivers in the region. Simms and Ward's work demonstrates that although employment opportunities and industrial diversity are clustered in St. John's, there are many commuters both to and from the city with secondary employment centres in smaller municipalities in the region.

Clarenville Region

Located on the east coast of the island of Newfoundland, Clarenville has a population of 5,275 people. It is positioned as a regional service centre, just west of the Avalon Peninsula and between the Burin and Bonavista peninsulas. The region includes 54 communities, with a total population of 16,426 in 2006. Throughout the region there is diversification in industry and education with substantial activity in the manufacturing sector.

Corner Brook Region

Corner Brook is the island's dominant west coast community with approximately 20,000 residents. The functional region includes 24 communities with a total population of slightly less than 39,000. It is a regional service centre and there is a high degree of commuting in and around the region. Most employment opportunities and industrial activity are in Corner Brook where public sector employment, the Grenfell Campus of Memorial University, and the province's last operating paper mill are primary economic drivers.

Labrador West Region

The region consists of two communities (Labrador City and Wabush), located in western Labrador, with a combined population of less than 9,000 people (7,230 of whom live in Labrador City). Mining dominates in this region with two operating mines, new mining developments proposed, and significant exploration activity.

Theme 1: The Social Nature of Innovation

The economic and creativity performance of city-regions depends on the strength of several factors:
- processes in place for the circulation of local knowledge within individual industries/clusters
- processes in place for the circulation of local knowledge among industries/clusters
- knowledge-based linkages in place between local and external economic actors.

To understand how people and companies share knowledge with each other in four different regions of NL, the project researchers looked at the relationships between the culture of knowledge sharing and the social nature of innovation in each region. Collaboration and cooperation in any region are key factors in determining the area's potential for innovation. This project investigated the degree to which this occurs and found that these key factors vary according to the sector under investigation and the geographic location.

> Collaboration and cooperation in any region are key factors in determining the area's potential for innovation.

To explore this theme, researchers set out to find answers under the following topics:
- how local businesses create or adopt new ideas
- whether or not there is a local culture that supports the processes of innovation
- the role of research and development.

As researchers recorded answers to questions on these topics, four distinct regional pictures began to emerge. While there are some commonalities among the four urban regions in NL, the results indicate that there is no universal pattern for local buzz, for global pipelines, or for the culture within which these flows operate.

The St. John's ocean technology cluster was by far the best example of local buzz, with active sharing of knowledge between firms and with local research and development institutions (Lepawsky, 2009). These transfers are aided by provincial industry associations (particularly in the St. John's region) Consortia such as the Eastern Suppliers Development Alliance in the Clarenville region and Western Metal Working Network in the Corner Brook region, were attempting to enhance business networking in their regions, albeit at an early stage of development. With a strong presence of international companies operating in the St. John's and Labrador West regions, there are stronger global knowledge flows there than in other two regions. Communication with other local players in different sectors is not a strength in any of the locations, but it does exist in arts-based endeavours and shows promise for success in other sectors, such as information technology and computer gaming.

With the exception of the St. John's ocean technology cluster, barriers to the flow of knowledge were common throughout the four regions. They include the following:

- competition and concerns over protecting intellectual property
- demands on time for business operators focused on the status quo
- low turnover rates for employees in highly specialised jobs, such as engineering and senior management, reduces the availability of a key source of knowledge transfer between organizations.

For some of the participating businesses and individuals, locating in the province is economically or creatively advantageous. Others have chosen to locate in the province because it is their home. Governance and community-level social dynamics play as significant a part in knowledge transfer as does the location of businesses. Having businesses located in close geographic proximity is key to the development of local sectoral strengths.

Knowledge Flows within Sectors

While it is difficult to generalize because each region and each sector has its own culture of knowledge sharing, they do have several communication barriers in common. For example, interviewees in the Corner Brook and St. John's regions noted that they had concerns about competition from similar businesses and are therefore reluctant to share trade knowledge.

> An oil-and-gas representative in St. John's sees local relationships as particularly key and noted a specific benefit to working near other, similar businesses. She calls them "synergistic opportunities" and explains that this means:
> - some costs are lowered
> - best practices around safety can easily be shared
> - these opportunities are more easily facilitated because of frequent face-to-face meetings within that sector where partners are required to compromise and do develop agreements with each other.

In Corner Brook, in particular, some businesses have developed such tight social networks (or cliques) that they see no need to share information beyond their current social connections. In Labrador West there is a unique barrier to the flow of knowledge, related to an insider/outsider dynamic. Those who work in the large international mining companies are the insiders and share knowledge with other insiders. But those who work for other companies in the region are not involved in these knowledge exchanges.

How knowledge is shared within industries depends on the culture and structure of the given industry and its location. Concerns exist over working too closely with competitors, but some respondents discussed the benefits of locating in an area with a concentration of similar businesses. An oil and gas representative in St. John's saw local relationships as particularly key and noted a specific benefit to

working near other, similar businesses. She called them "synergistic opportunities" and explained that this means:
- some costs are lowered
- best practices around safety can easily be shared
- these opportunities are more easily facilitated because of frequent face-to-face meetings within that sector where partners are required to compromise and to develop agreements with each other.

For some businesses, industry associations are the primary means of interacting with their local counterparts. Some of these associations include:
- Newfoundland Ocean Industries Association (NOIA) which is the primary association for the oil and gas sector
- Newfoundland Alliance of Technical Industries (NATI) which focuses on the IT sector and other technical industries
- Newfoundland Environmental Industries Association (NEIA) which supports the growing environmental sector
- OceansAdvance Inc. which is the only identified cluster-based organisation in the regions studied. It represents the ocean technology cluster which includes more than 50 companies and some institutional members, primarily located in St. John's. The participating companies are involved in a wide variety of activities and are primarily outwardly oriented with stronger links to suppliers and clients outside the region than within it.

An information technology business owner in St. John's, discussed the usefulness of such associations for marketing his services, arguing that industry associations should assist in opening up new markets on the mainland. OceansAdvance has been able to encourage international partnerships and focus on markets outside of Canada. This international market focus has contributed to the success of many of these companies.

The flow of knowledge within a sector helps to develop clusters and to foster innovation. In addition to industry associations and formally structured groups, there are examples of smaller businesses in most regions of the province successfully developing a consortium. Examples include the Metal Working Network in Corner Brook and the Eastern Supplier Development Alliance in Clarenville. These partnerships created opportunities to bid on large contracts and to engage in travel for learning. OceansAdvance has shown the success that this type of partnership can foster, providing a framework through which businesses work together to encourage the development of an international presence.

Supported by the federal and provincial governments and the National Research Council, OceansAdvance Inc. is a membership-based cluster organization of businesses and academic units. It led an extensive strategic planning process for the cluster in 2009 with the release of "Outward Bound 2015: Accelerating the Growth of the Ocean Technology Cluster Sector in Newfoundland and Labrador."

The Eastern Supplier Development Alliance (ESDA) is a partnership of three local Chambers of Commerce and three REDBs in the Clarenville region. These groups have come together to discuss the incremental opportunities that will be created in the manufacturing, fabrication, service and

supply sectors from the Hebron oil field structure fabrication at Bull Arm and in other business opportunities.

Through their work, ESDA is tackling a critical issue that limits the growth of small businesses in Clarenville—the "intimidation factor" of supplying large, multi-national corporations. Individuals interviewed for this project suggested that many small, local companies would rather remain at their current size than explore opportunities to work with larger businesses because of the high cost of adhering to quality standards and other requirements of big business which are seen as too risky for small companies. By combining the skills and assets of small businesses, however, EDSA reduces the risks. As part of this initiative they are developing a joint website to promote their services and they are hiring a business manager to work with local companies to enable them to reach quality standards necessary to supply the large multi-nationals in the province. ESDA's efforts have not resulted in any large contracts to date and interviewees suggested that businesses needed to take more ownership rather than relying on local development organizations.

Another innovative strategy for growth is the Western Metal Working Network in the Corner Brook region. This partnership of six independent companies seeks business contracts larger than those any of the partnering companies could secure alone. One interviewee noted that being involved with the network has resulted in several positive outcomes including stronger relationships with the Department of Innovation, Trade and Rural Development, with the National Research Council, and with other government agencies. The network is also involved in education and trade activities including a collaborative trip to Alberta. Members participated in trade shows, made contacts outside NL, and had the opportunity to learn from industry peers across the country. This network still faces challenges. A representative from one of the partnering companies explained that knowledge flow is sometimes curbed because the partners are also regional competitors, bidding against each other on some projects.

In each of the regions, interviews also revealed that business owners are reluctant to collaborate because of potential concerns about the protection of intellectual property or the fear that prosperity will encourage local jealousies. A number of representatives from companies in Corner Brook and St. John's acknowledged that it is important not to experience too much growth or a sudden increase in popularity. This is due to a concern that community members may perceive "that you think you are all that," as one respondent put it, and subsequently they might be reluctant to support the business, or they might choose instead to take action to damage its reputation. In St. John's this was apparent primarily in non-traded businesses that cater specifically to the local market.

Industry associations and local business networks can, however, minimize risks and encourage businesses to foster communication and collaboration and increase knowledge flows within sectors. Provincial industry associations are more prominent in the St. John's region not only because it is the provincial capital and the location of most head offices in the province, but also because there is a concentration of multi-national companies there with global connections. This may be supporting the conditions for the sustained high level of innovation in the region. While industry associations each have a provincial mandate and should be sharing information throughout the province, this may not necessarily be the case. They do help foster local buzz in the St. John's region, but outside the capital region the associations were not mentioned as frequently during the interviews.

From interview results, the creative and cultural sector is collaborative and well-networked in the St. John's and Corner Brook regions. This may in part be due to the nature of the sector with its comparatively limited resources, but it is also due to the fact that collaboration is a part of the artistic process. One NL-based actor and producer noted that, given the way the culture has developed, there is a lot of cross-over between amateur and professional theatre workers. This in turn creates a unique blending of knowledge and ideas. According to this producer, the small subpopulation of people in the creative sector means that many of them know each other and have worked together thereby building a tight-knit community. He knows many of the local people working in the industry (theatre, music, etc.) and often hires co-creators and technical staff from a list of individuals he is familiar with. Another theatre producer and director said that even though people are sometimes protective over new ideas, resource sharing occurs frequently within the theatre scene and in other artistic disciplines. He often collaborates on productions with other companies. He does so because he feels this strategy is best for long-term projects, where all partners are engaged from the beginning and have a sense of shared ownership.

In Corner Brook, artists representing two local organizations, League of Artists of Western Newfoundland and Stockpile (a free-to-join, multi-disciplinary artist collective) discussed the artistic and professional benefits of being involved in collaborative groups. Communication and collaboration among artists there has resulted in several successful theatre and music festivals, the development of a municipal art policy, and an initiative to create a municipal multi-disciplinary art-space. Similarly, St. John's has released a municipal arts plan that indicates the strengths of the sector and the directions for the future of arts in the city. Other sectors in the province looking to achieve collaborative successes might glean some insights from these formal and informal collaborative structures in the arts sector at the municipal level.

Knowledge Flows and Employee Movement between Companies

A frequent comment in interviews was that it is always the same people who come to the table to initiate community action. While this fosters knowledge flow it is a contained exchange; with the same players returning to the table knowledge is easily shared *within* businesses and within organizations, but the flow is restricted among different businesses, organizations, and sectors. This is a problem if the free and cross-sectoral flow of knowledge—or local buzz—essential for innovation and development is to be achieved.

Ironically, the limited scale of population and organizational diversity in smaller urban regions may create more opportunities for cross-sectoral knowledge flows. Respondents pointed out that these limitations of scale facilitate the sharing of ideas. This seems to be in direct opposition to the theory proposed by Jane Jacobs. She maintained that it is the cross-sectoral flow of knowledge in larger urban centres that fosters innovation. And yet, in small centres such as the Clarenville and Corner Brook regions, specialized workers indicated that there were no other firms in their respective sectors so they had to network with people in other sectors. They did not identify any specific innovations that resulted from such interaction but, if explored, this could emerge as a characteristic of innovative strength in *smaller* urban centres.

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Interviewees also indicated, however, that the potential of such local buzz to stimulate innovation, and possibly attract workers from outside the region, is offset to some degree by an instinct to protect the job market and to ensure there are adequate jobs available for people who already live in the region or who are perceived to have seniority. This limits the information that is shared with outsiders and restricts any potential movement of innovation workers. Knowledge flow at the local level can also be hindered by a lack of employee movement between businesses. Companies that responded in Corner Brook, Clarenville, and Labrador West revealed that recruitment is very limited, especially in low-turn-over management and supervisory positions. Interviewees indicated that there were more efforts to recruit new employees in the St. John's region, particularly in the ocean technology cluster. This was attributed in part to the economic and social climate there and the effect of scale—the St. John's region has more jobs for highly skilled workers. In less populated communities interviewees noted that there is little mobility for highly-skilled workers who, in order to change jobs, must change communities. Larger scale urban centres offer the intrinsic advantage of greater diversity of opportunity without having to relocate.

Knowledge Flows across Sectors

Local buzz and geographic clustering of businesses in a similar sector contributes to knowledge flows within particular sectors. Bathelet et al. (2004) argue that with many ideas and practices being generated within a sector, there will be spill-over into other sectors located in the same geographic area.

The interviews for this project did reveal some examples of information sharing across sectors, contracting employees from outside a specific sector for specialized tasks, and sharing ideas and practices with local businesses. Engaging individuals from other sectors to work with a firm can be a fruitful step towards the creation of innovative products and services. What is important to note about many NL cases is that this cross-sectoral communication may be happening, not out of concerted attempts for collaboration, but because there are so few players in each sector.

The best example of cross-sectoral knowledge flows among the business people interviewed came from an IT firm in the St. John's region that designs video games. Their spokesperson noted that their business is influenced by the film industry which provides both inspiration and contracts from current movies. They have also made an effort to collaborate with a wide variety of local musicians, film-makers, and researchers in the IT field and beyond to create new products.

While actively solicited partnerships and formal relationships contribute to knowledge flows within a local area, informal relationships are also a source of local buzz. For example, through her involvement in the oil and gas sector, one individual sees a unique benefit to being located near local environmental organizations. While she does not actively seek out formal partnerships with these groups, the research and practical work that those companies do leads to innovations in health, safety, and environmentally-safe practices that can be adapted by her industry.

These local knowledge flows are not always easily achieved. It takes time and effort, from all parties involved, as well as a great deal of trust, for any company to accept criticism, share knowledge, and allow others to adapt it for their own profit. Some interviewees noted that in NL it is sometimes beneficial to "fly under the radar" because the culture has not historically supported business success. Additionally, the time and effort it takes to engage in such local partnerships can be a deterrent. When discussing why his food and drink manufacturing company does not engage in many partnerships, one respondent said that reaching out to other businesses, especially in different sectors, is difficult because it takes valuable time away from an already demanding schedule.

Challenges do exist in creating local buzz and building a culture where knowledge is shared among diverse communities; however, many do see the benefit of engaging. One St. John's respondent noted that, to her, the biggest benefit of being located in an area that has a number of thriving sectors is that it creates a vibrant and economically diverse community that can provide jobs and opportunities for everyone in her family. But, most importantly, she sees the success of some businesses and industries providing inspiration for others to take action, whether or not there are active partnerships:

> . . . So having a vibrant community is good even if you're not in the same field. The other thing is . . . it gives you a little more mobility. I think it just raises the bar. In a comparative community where individuals are always comparing themselves to each other, everyone rises

to the occasion.

Global Pipelines

Global pipelines are key to bringing information from beyond immediate geographic boundaries into an area, helping to spur innovation. This knowledge can come from accessing information from elsewhere through sources such as newspapers, online articles, and emails from peers in different regions. It also occurs at tradeshows and conventions whether these are local or outside the region. Global pipelines also occur where individuals come from other locations to work in or to visit the region or when those who work in the region leave to train or work elsewhere and then return home with new ideas and skills—the "been aways" as identified by University of Toronto researcher Greg Spencer during a visit to NL (Hall, 2010).

Among the participating regions in this study, the St. John's and Labrador West regions demonstrated the strongest global pipelines: the former through SMEs in the ocean technology cluster and through large multinational oil companies with local operations; the latter through the giant international mining companies operating in western Labrador. Corner Brook, like the St. John's region, had the advantage of a university campus, but much less private sector international knowledge flows. The paper mill is commonly seen as having very limited interaction with other businesses in the area. There was access to communications technology like video conferencing in each of the areas, which has supported external interactions in recent years, but these technologies were seen to provide a useful support to relationships that also required face-to-face interaction.

In Labrador West, where permanent, year-round settlement did not begin until the mines brought people there to work, few residents are originally from the area. In the half century since then, people have arrived from other areas of NL, Canada, and the world bringing their unique world views. The global businesses in the region contribute through global pipelines to the knowledge flows in Labrador West. For example, IOC is associated with the global mining company Rio Tinto, with access to a worldwide research and development network. This helps inform the development of strong mining technology in the area and encourages collaboration at IOC to keep the Labrador mine competitive on the global stage. One mining company has an internal "portal" for knowledge flow and problem solving. It is accessible to anyone in the company, anywhere in the world.

The influence of the international mining giants in Labrador West creates an insider/outsider dynamic. Those involved with those companies in the mining sector have access to global pipelines while those who do not work with them are excluded from those types of global exchanges.

The presence and development of global pipelines is even stronger in the St. John's region. With the number of multi-national companies there and with former residents returning home to an improving local economy, global pipelines of knowledge continue to emerge and expand. For example, the companies involved in the oil and gas industry have a global reach. Two interviewees, who work for oil and gas companies, noted that these companies must be highly innovative because they are engaged in multi-national projects. One interviewee explained how his company puts mechanisms in place to allow for enhanced communication between their international locations. Through these efforts, his branch of the company can avail of research done by their Norwegian counterparts who are aligned with universities and research institutions in that country, providing a wide range of

innovative sources on which to draw. The ocean technology cluster also has global reach and does much of its business outside Canada, creating global pipelines through exporter and importer relationships.

A number of local ocean technology organizations, such as ICAN (International Communications and Navigation), have joined national and global organizations that facilitate information sharing. Interviewees also referenced programs and services of the federal and provincial governments in accessing global markets and information. Memorial University and the College of the North Atlantic (CNA), the college system for the province, were also mentioned as a resource for tapping into global pipelines.

Innovation and the Role of Educational Institutions

Throughout the interviews post secondary institutions were often the main focus with regard to knowledge creation and sharing. The presence of campuses of Memorial University in St. John's and Corner Brook, and campuses of CNA in each of the urban regions, provides opportunities for knowledge flow from post-secondary research into local business and other organizations:

- businesses hire from a pool of educated graduates
- researchers undertake local research and share their results with local communities
- outreach efforts from these institutions and other research centres create local buzz and build relationships with local business
- universities and colleges have their own global pipelines to link local businesses with outside knowledge.

> Interviews with key individuals in a number of sectors, including government and education, indicated that the province's post-secondary institutions are not as closely networked with community businesses, organizations, and governance structures as they could be.

Key interviewees in several sectors, including government and education, indicated that these post-secondary institutions, despite these knowledge flow benefits, are not as closely networked with community businesses, organizations, and governance structures as interviewees believed they could be.

Memorial University houses many research centres and faculty and students engaged in research. MUN was singled out by interviewees as a key contributor to development and innovation in NL. It fosters knowledge flow outside of institutional boundaries through graduating students, and through involvement in multi-partner projects. An oil and gas industry research facilitator noted that:

> MUN is by far either equal or better than any other university in Atlantic Canada, and from a petroleum perspective, at being engaged with industry. . . . I guarantee you that MUN is doing a better-than-average job in the Atlantic Canadian context of being at outreach and being involved with the oil and gas industry.

However, not everyone is content with Memorial's contribution to regional economies. Interviews indicated that industry players sometimes have a difficult time with the scope and structure of academic-driven research compared to applied commercial or industrial research. For example, while the previously quoted individual recognised the favourable reputation of Memorial University as an institution engaged with the petroleum industry and with doing outreach, he also expressed the belief that small oil and gas supply companies want to figure out how to get the university to address their exact research needs and are dissatisfied by the fact that professors can instead pick their own projects and work at their own pace. He said that people are complaining because the university is "not sitting there waiting to do an exact specific scope of work and deliver against that scope of work for a company who told them so."

Addressing a similar concern, an ocean technology representative noted that "research performance is badly done in engineering schools" because the field of engineering is multidisciplinary and the independent research done in university structures "does not make sense." The oil and gas industry research facilitator stated: "One professor with three graduate students focusing on one project for $15,000 of an NSERC grant, they're going to solve nothing" whereas his organization "will get $100,000 to do a two-month research contract that addresses real market needs in a timely fashion." This highlights the tension that exists for some between academic research and applied research as they compete for research dollars.

> "People are complaining because the university is not sitting there waiting to do an exact specific scope of work and deliver against that scope of work for a company who told them so."

In Corner Brook, several researchers, professors, administrators and staff at Grenfell Campus were interviewed. Most of them mentioned that Grenfell Campus could be more involved in the community. One employee suggested that university representatives should meet regularly with City officials. They are on good terms but do not have a clear structure for bilateral communication. The desire for regular and structured meetings on collaboration was echoed by another Grenfell respondent. She indicated that her department does take advantage of collaborations with CNA, local REDBs, the Western Environment Centre, and similar groups even though they do have ad hoc and project-based meetings. And there is a call within the community for increased organization to make these partnerships more effective and productive.

Although Clarenville does not have a Memorial University campus, there are researchers working actively on a range of projects in the region. One interviewee from the Clarenville region highlighted the lack of local regional research capacity and the limited involvement from Memorial University. They commented that little has been done by Memorial in the region to support oil and gas research and development even though significant oil-related construction has taken place there.

CNA's Labrador West Campus is the region's primary player in terms of public post-secondary education. It offers job training in fields that are in demand in the region such as mining technician and industrial mechanics programs. The campus also houses Memorial University's Labrador

Institute. The Labrador Institute promotes university-level courses transferable to degree programs at other Memorial University campuses. The Institute also houses researchers when they are working in the area. Nevertheless, many respondents were dissatisfied with post-secondary options in the region. The REDB is lobbying to have more programs that cater to the needs of mining towns (Travers, 2008, 109). In addition to Memorial researchers and the capabilities of CNA's Office of Applied Research, there is also community-based research by local organizations such as the Hyron REDB. It has released research reports on economic, labour market, and tourism issues.

The requirement for oil and gas companies to invest in research and development and education and training within the province offers the prospect of a major positive impact on the scale of research and development in the province. The local operations of these companies are focused on exploration and production. As they fulfil their regulatory commitments they will need to establish significant research and development capabilities. To help meet their required investment in Atlantic Canada many of the oil companies, along with the governments of NL, Nova Scotia and New Brunswick, have partnered in Petroleum Research Atlantic Canada (PRAC). Through this organization they investigate the potential for shared research investments for local projects and sharing of information. In 2009 the Government of NL launched its own Research and Development Corporation. They support university-based research through their Industrial Research and Innovation Fund (IRIF), and industry-driven research through Research and Development Vouchers and Research and Development Proof of Concept programs. These are aimed at small- and medium-sized companies that improve access to researchers, facilities, and equipment and reduce technical and financial risk of pre-commercial research and development (www.researchnl.com). Focusing on research in the petroleum industry (including oil and gas and ocean technology businesses) they also run the Petroleum Research and Development Accelerator program to co-fund large projects that align with industry needs and development opportunities. Both federal and provincial governments have also made investments into the research infrastructure and capacity at Memorial University, which is developing a research plan to focus and coordinate investments.

All this new research and development funding has yet to settle into clear processes and relationships. Encouraged by local collaboration in the oil and gas sector, a research facilitator noted during the interview that it takes time to establish the role that each player must pursue:

> I think the single biggest challenge facing this community of associations is the lack of maturity. The fact that this is all new—there's a huge amount of churn from the oil and gas companies right down to the individual professors, you know, and researchers. . . People are still figuring out the rules, including the regulator—the regulator who made up this requirement which constitutes a paragraph in the guidelines.

The current obligation for oil and gas companies to invest in research and development and education and training is estimated to be approximately $800 million (MUN, 2010, 18). For companies and research institutions the "churn" from this funding is likely to continue, but it is a challenge which most regions wish they had the opportunity to experience.

Theme II: Talent Attraction and Retention

There is no shortage of theories and best practices on the most effective way to attract and retain skilled and creative workers; however, interviews for this project indicate that the availability of local jobs is the key factor in attracting and retaining people in NL. This is particularly the case outside of the St. John's region where there is little job mobility and where there are fewer jobs for people with highly specialized skills.

> For skilled and creative workers amenities matter... but only if career goals are satisfied.

Respondents also indicated that retention is easier than attraction and that amenities and quality of life make a difference in retaining skilled workers. Indeed, technology businesses in St. John's focused on attracting Newfoundlanders and Labradorians back to the province based on quality of employment combined with the desire of people to move back home. While skilled workers in academia and the arts sector valued quality of life and being in their home province, they saw St. John's as a staging ground to move to larger centres where there are more opportunities to excel in their career. For skilled and creative workers amenities matter but only if career goals are satisfied.

Role of Amenities

Each city region provides a unique mix of amenities. There were common favourable amenities, however, highlighted by interviewees. These amenities include the following:
- perception of a safe community
- culture that meets the social needs of young families
- easy access to scenic landscapes and seascapes
- availability of recreational sports and outdoor activities.

While it was discussed in all four locations, in Clarenville a number of respondents noted that they appreciate the safety of a smaller town. One resident commented that Clarenville is perfect for families because it is a traditional town where people take care of each other. Others reported that that there are close circles of friends who regularly socialize and provide social safety nets—social bonds which make the area an attractive place to stay.

Similarly, Labrador West was seen as a safe community with strong police presence by interviewees. Respondents in Labrador West, in Clarenville, and in Corner Brook felt that their communities offered a supportive economic and social environment for young families.

The regions were all lauded by interviewees for their commitment to developing and encouraging recreational activities for families:
- interviewees noted that the Clarenville region has strong sports-related amenities and has the infrastructure (ski hill, hockey arena, and sports field) to support this
- in Corner Brook outdoor recreation in particular is key to attracting and retaining people.

- Pursuits like hiking, skiing, and mountain biking were highlighted frequently in the interviews in Labrador West outdoor activities, and the long, cold season that allows for winter activities such as skiing, snowshoeing, and snowmobiling, help keep residents satisfied with living in the area.

Even with the presence of these positive amenities in each of the communities outside St. John's several respondents noted that there are challenges in attracting and retaining talented and educated individuals. Throughout the interviews, respondents identified several reasons why their region continues to struggle with attracting and retaining talented people from outside the province and country. For example, in Clarenville many cited the increasing price of housing as an issue. Housing prices have increased so much that one interviewee pointed out that the price of a starter house in Clarenville is the same as the St. John's region, yet the Clarenville region is not providing the same amenities. This limits the number of people who can afford to live in Clarenville and also the number who desire to do so. Respondents from Labrador West were also dissatisfied with the availability and cost of housing, as well as the limited land available for development. With regard to attracting young single workers, interviewees in both Clarenville and Labrador West felt integration into the community was a challenge. All locations had informants who said families with children found it easier to integrate into a community.

Other challenges common to all regions include the difficulty and expense of travel and transportation and, outside of the St. John's region, concerns about access to healthcare. Respondents were primarily concerned with the lack of availability of specialist health services. Often the two problems are combined when people must book expensive airline tickets to travel to medical services. With relatively small populations spread across a large geographic area there is often not enough demand in one particular location to make supplying specialised services economical for governments. It is cheaper for them to send people elsewhere to receive these services. This impacts the quality of life in these communities as well as the decisions of individuals who are considering moving to a region or staying there.

Home as a Driver for Attraction and Retention

Debates on the importance of highly paid, specialized jobs versus amenities and diversity in attracting and retaining knowledge workers fail to account for the idea of "home" (family, geography, familiar culture) as a primary factor in determining why people choose to live in a particular area. Through interviews conducted for this project the notion of living home was cited many times as a reason respondents chose to live and work in NL. These individuals are looking for a familiar place where they can feel a sense of belonging. This is true even for some non-native Newfoundlanders and Labradorians who have easily cultivated a sense of home in their region and feel integrated into the strong, supportive local social networks. Nevertheless, the primary factors for attraction and retention are not consistent throughout the province and jobs, amenities, and a sense of home or belonging all play a role.

Virtually the entire population of Labrador West initially located there because of the jobs and business opportunities in the mining sector. One interviewee recounted how he first came to Labrador West as a young man because he knew that there were good-paying jobs and that the mine provided a bunk and cafeteria services to ease the financial burden of leaving home for the first time.

Respondents with non-IOC positions often cited their job as the only thing enabling them to stay in the area—if they lost their positions they would have to move. However, respondents in Labrador West were not concerned about having to move and described their region as experiencing an economic boom with sufficient available jobs.

Interviewees in Clarenville indicated the same optimism about the economy of their region as did the people of Labrador West. They feel that they too are experiencing a boom with the proximity to oil-related development. In contrast to Labrador West, many interviewees in Clarenville were native to the area, live there for both the jobs *and* ties to home; however, the region does face challenges in retaining employees.

In the St. John's region there are strong job opportunities, but people from around the province are also attracted there because of the available amenities including arts resources, shopping, restaurants, health care, and a university. St. John's has exciting things happening in the creative and cultural sector. Residents are able to take advantage of things only available in larger, more densely populated areas, but still stay "home" in the province.

Many interviewees located in St. John's because it is their home. They are near family as well as a culture, landscape, and lifestyle with which they are familiar. Businesses use this to their advantage when hiring employees. For example, one respondent claimed that attracting talented people is a key component of his software company's success. He noted that his business would probably do better in Boston or Silicon Valley, or even Ottawa, but he is much more content working at home in NL. Some of his employees are "from away" but most are from NL or were born here, have lived away, and were looking for a reason/job to move home. These employees were not recruited through nationwide advertisements which he finds ineffective. Instead, he capitalised on the tight social networks many Newfoundlanders and Labradorians have. He continues to do most hiring through references from current workers who are helping friends find a job "back home."

Similarly, another technology company is very keen to continue operating in St. John's because it is "home" even though their industry counterparts are located around the world. A representative from the company feels strongly about staying and working in Newfoundland and Labrador herself and noted that the company's hiring, training, and development practices sometimes operate, "with the ultimate goal of keeping kids home—you know, keeping them in Atlantic Canada and not having them have to leave to do cool stuff." They also "sell" the idea of working in Newfoundland and Labrador to potential international employees who may be attracted by factors like low crime rates, a short commuting time, and low housing costs. She said "not everybody wants to live in Newfoundland like not everybody wants to live in Toronto, or not everybody wants to live in Vancouver," so when they are recruiting and hiring they try to determine who will be a good fit with the region.

In Corner Brook, many creative individuals are attracted to work or to study at Grenfell Campus, Memorial University. Retention is still a challenge but some interested individuals and graduates stay to take advantage of opportunities available in the urban region. It does not offer all of the same big-city amenities that the St. John's region provides; however, as the primary service centre of the west coast of the island, it attracts people from smaller communities in the region. For small urban centres, the balance between access to jobs and services and an emphasis on rural lifestyle and sense of home

came up repeatedly in the interviews.

A participant in Labrador West commented that isolation fosters creativity because residents have to be resourceful. Others noted that this isolation also brings people together aiding the development of tightly-knit social bonds, influencing their culture, and contributing to their region's unique identity.

This type of relative remoteness and isolation also creates opportunities in the regions for residents to take initiative and make tangible contributions to their community by developing the amenities that they lack. One respondent noted that he has thought of moving to another town with the amenities and social climate he desired, but then reconsidered because he would rather work to help his region become more like that model city.

> Jane Jacobs' notion of innovation derived through interaction across sectors may have unexpected potential in small urban centres—if you are on your own in the area of specialization you have more motivation to cut across sectoral or professional silos.

While some professionals noted that there was little job mobility, the small population and isolated location also means that there are opportunities for individuals to take their career in new directions. For example, one university professor chose to live in Corner Brook because he saw the potential there to be able to innovate on projects not directly in his field of study that would not have been possible if he were the "little fish" in a bigger city. Another said that Corner Brook is "small enough so you end up getting involved in a wider variety of activities than you would if you were in a larger place where people are much more pigeon-holed and specialist." This opportunity to become more widely involved adds to their satisfaction of staying there and may be something to focus on when looking to attract people to any of the participating regions.

Jane Jacobs' notion of innovation derived through interaction across sectors may have unexpected potential in small urban centres—if you are on your own in an area of specialization you have more motivation to cut across sectoral or professional silos.

Tolerance, Diversity and Immigration

While the availability of jobs emerged as the primary factor in attracting individuals to an area, one hypothesis of this project is that tolerance and diversity are also important factors in attraction and retention. Interviewees indicated that each of the participating urban regions lacked diversity. Individual perceptions of diversity differed, however, and many saw their communities as having the potential to be welcoming and tolerant of racial and religious differences.

Throughout the interviews, Corner Brook was represented as lacking diversity on a variety of levels. While the number of international students is increasing, immigration is not strong. Low immigration rates limit ethnic and national diversity. There is also a lack of diversity in the arts community which is primarily composed of NL artists or artists working within a narrow range of mediums or styles. A

few interviewees also commented that sexual diversity was not tolerated well in the area and, while there was a gay pride parade, only a small group of active community members attended. Others noted that their LGBTQ friends and co-workers are not comfortable expressing their sexuality in the region and some have moved away because of this. Yet, not everybody sees this and some believe that the area is quite tolerant because there is little racial discrimination.

According to one respondent in Clarenville there is no discrimination in that area. Another interviewee said that the hospital is a prime example of how individuals with different backgrounds face no hostility, racism or bigotry. This view is held by many of the local people but as one person pointed out, they've never really had to deal with diversity, especially the older demographic: "[The older demographic] would say stuff that people in the big city would find offensive." Clarenville today is not a racially, ethnically, or socially diverse population. How tolerant people would be to more immigrants in their region remains uncertain.

One interviewee who was born outside of Clarenville suggested that, when immigrants come to Clarenville, they feel isolated and alone. This indicates that perhaps the issue here is not so much one of tolerance, as it is the difficulties of breaking into close-knit social circles.

This is consistent with a recent study by Tremblay and Bittner on immigration in NL which suggests that, overall, the people of this province have a warmth and openness towards diversity but are concerned with how immigration affects resource distribution in the province. They suggest that this may be because the legacy of poverty may have led to a sense that resources need to be protected; however, continued economic prosperity may change these perceptions (Tremblay and Bittner, 2011).

Throughout the interviews, Labrador West was normally described as having a fairly homogeneous population. Yet, even though there are institutional mandates to welcome newcomers and embrace diversity, issues around a lack of tolerance and the presence of discrimination were raised by interviewees who recounted examples of discrimination or intolerance based on gender, sexuality, race, linguistics, employment, religion, and ethnicity. Some said this has caused individuals to leave Labrador West. As one individual noted:

> Change in this area does scare people. People are very much set in their ways. It is a very male-dominated community in its values and thinking, based in tradition. There are problems here, but they are hidden well and not talked about.

Labrador West is a relatively new community of people from many backgrounds with members who frequently travel for work. Many respondents there said they believed tolerance is necessary. One participant noted that the city is open to change because IOC must compete globally and is a primary driver of social development in the town. IOC was also promoted as encouraging equality by operating as a meritocracy and having a high degree of gender equity. Such inclusivity is happening beyond IOC. One respondent noted that any close-mindedness will change with the influx of new

people. Other interviewees noted that local women's groups were engaged community stakeholders and the local Francophone associations have recently been experiencing greater support.

While the St. John's region enjoys greater diversity than the smaller urban centres in the province, it is less diverse in terms of ethnicity and birth locations than other Canadian centres (Spencer and Vinodrai, 2009). During the St. John's region interviews, the divide between native Newfoundlanders and Labradorians and "outsiders" or CFAs (Come from Aways), was mentioned. One respondent noted:

> We're still very much an insular community . . . Although we're very friendly, we're also very . . . I don't want to say suspicious, but whenever I sit down with anyone, I still get the 'Who's your father? Where were you born?' Right? It's very important to find out how you're connected to Newfoundland. And I think that can be a real barrier.

Newfoundland and Labrador enjoys a "hidden diversity" from the many residents who have studied or worked outside the province and returned home, bringing their skills and contacts with them. These "been aways" may not enhance ethnic diversity but they do contribute new ideas, knowledge and their own global pipelines to contacts outside the province.

There are attempts through policy work by the provincial government and NGOs to address the issue of diversity and overcome the divide. A provincial immigration strategy promotes welcoming communities. Local immigration strategies by towns and cities are encouraged and supported. One Clarenville resident pointed out that immigration is extremely important to a small town trying to develop its economy. Other interviewees suggested that while it was clear that local people believe the Clarenville, Corner Brook, Labrador West and St. John's regions are tolerant to immigrants, when people move there they encounter high barriers to entry. One interviewee who was born outside of Clarenville said that immigrants to Clarenville feel isolated and alone. This suggests that the issue does not have to do with a lack of tolerance but rather with the difficulty of breaking into close-knit social circles. These strong local bonds are valued locally and are associated with feelings of security but they can create barriers to entry for immigrants and migrants. The local government representative recommended that since young people also find it hard to make a connection to Clarenville, there should be some kind of mentoring or buddy system put in place so immigrants feel less isolated.

This may also be effective in Labrador West where some people (particularly young, single individuals) find community integration difficult because of a lack of social opportunities for their demographic. In the Corner Brook and in Clarenville regions there is no one-stop for newcomers to get all the information they need. This makes it difficult for people when they are trying to find out about government services, bank services, and other activities. When such a service is in place it could help them feel more welcome. Interview participants noted that increased communication from local governments, NGOs and businesses would be a huge benefit to their communities.

There have been successful efforts to encourage immigration to each of the regions. Clarenville has recruited nurses from India to meet labour shortages in their health care system. In Corner Brook, the now-disbanded Humber Education Alliance successfully recruited international students to all the region's educational institutions. Many of these students still remain in the region. The individual organizations have taken what they learned from the local buzz created by the alliance and continued to apply it to attract international students. With these new approaches to encourage immigration, the regions continue to use them in other situations such as the attraction and retention of doctors—particularly in Corner Brook and Clarenville. Doctors are offered financial and social incentives designed to make their move to the region as smooth as possible for them and for their families. According to some interviewees these efforts may seem excessive to residents and would be unsustainable to encourage all immigration; however, it could serve as a model for successfully attracting and retaining people to a region—making the transition for the workers, and for their families, as easy as possible.

Many migrants and immigrants to Newfoundland and Labrador combat the CFA (Come from Away) label by saying they are NBCs—Newfoundlanders by Choice. Greg Spenser observed at a project workshop that Newfoundland and Labrador enjoys a "hidden diversity" from all the residents who have studied or worked outside the province and then returned, bringing their skills and contacts with them (Hall, 2010). These "been aways" may not enhance ethnic diversity but they do contribute new ideas, knowledge and their own global pipelines of contacts outside the province.

Theme III: Governance and Inclusion

The proposal for the national project, by David Wolfe, argued that "the economic performance of city-regions depends on their ability to generate effective new forms of associative governance—including, but not limited to, government—and collaborative leadership" (Wolfe, p.24). Wolfe suggested that if city regions were to be successful in generating the conditions for innovation and attracting and retaining creative workers, governments, industry associations, and NGOs needed to work collaboratively and create inclusive and flexible governance arrangements. Civic entrepreneurs and civic capital were as necessary for local governance as were private sector entrepreneurs, trust and social capital for business innovation.

Interview participants for this project, nationally and across NL, were asked about their perceptions of the role of all levels of governments and NGOs in their regions. The results in the four NL urban regions shared some common characteristics, but also demonstrated significant variation.

One factor that all regions in NL have in common is the continuing weakness of local organizations in the province, particularly relative to the provincial government. Local government was very slow to develop in NL, and while Canada has the weakest local government in the OECD, NL has the weakest local government in Canada. The provincial government in NL maintains tighter reins on municipal government as "the creature of the province" under the constitution, than any other Canadian province (OECD, 2002; Felt, 2009; Greenwood, 2009; Municipalities NL, 2010a). With less responsibility and insufficient resources to play a significant role, municipalities look to the provincial government to carry the lion's share of infrastructure, labour market and economic development.

> The provincial government in NL maintains tighter reins on municipal government as "the creature of the province" under the constitution, than any other Canadian province

Governance is more than just the hierarchical structure of elected officials and public servants. It also includes the impact and interaction of NGOs—industry and community groups. Interviewees focused many of their comments on the impact (or lack thereof) of strong citizen leaders and NGOs, and on the resources available to decentralize decision making and service provision in the province. Just as with municipal government in the province, those interviewed maintained that the provincial government controlled resources and that community and regional organizations lacked the necessary tools to play an effective role in local governance.

There was variation in the level of cooperation and coordination amongst the federal, provincial and municipal governments. The period of study included a time of significant federal-provincial conflict, when Danny Williams' PCs were battling Stephen Harper's Conservatives on a number of fronts. The

St. John's region interviewees commented consistently that these political battles impacted the ability to work collaboratively in the region, as federal and provincial officials were unwilling to engage collaboratively with municipalities and community organizations. In the urban regions outside St. John's, this was not the case. Distance from the capital could have a positive effect in avoiding political squabbling and focusing on the job at hand, particularly for federal and provincial public servants.

Another challenge in the St. John's region was the lack of collaboration among neighbouring municipalities due largely to the threat by St. John's of amalgamating its neighbours. While there are numerous service sharing arrangements amongst the municipalities on the North East Avalon Peninsula, almost all those interviewed noted that further collaboration was inhibited by the capital's territorial ambitions. Amalgamation was much less an issue in the Clarenville and Corner Brook regions, although many suggested that inter-municipal collaboration could be better than it was. Labrador West, with only two communities in a remote region, reported great collaboration amongst governments and between governments and NGOs.

While St. John's had the weakest "associative governance" reported, it did benefit from the excellent coordination of federal, provincial and municipal governments, industry and the university through the ocean technology cluster. St. John's also enjoys extremely successful collaboration among NGOs in the social sector, working on issues such as affordable housing, youth employment, women's shelters, and services for people with disabilities. Very effective leaders, many of them paid staff, have partnered with the provincial government through its Poverty Reduction Strategy, to access resources for their organizations to fulfil their mandates. Outside St. John's, there was much less success in this regard, and indeed, those interviewed in Corner Brook reported a decided lack of collaboration among NGOs.

These variations in local governance reflect, in part, the reality of different local cultures, local leadership, economic history, and current economic status. The availability of adequate resources, nonetheless, distinguishes the ocean technology cluster and the St. John's social sector NGOs from the other instances studied. Labrador West's booming economy and strong local leadership places it in the unique situation of succeeding without relying on federal or provincial programs (although affordable housing has become an issue demanding innovative community-government collaboration). NGOs and other governance bodies have a crucial role to perform in empowering regional governance in Newfoundland and Labrador; however, with a couple of exceptions, the current provincial model does not support their efforts.

Federal/Provincial/Municipal Relationships

In Clarenville, Corner Brook, and Labrador West, the cooperation of federal, provincial, and municipal governments was seen by interviewees as a strength. Most of them indicated that there is good cooperation among the three levels of government in their region. They were encouraged by good relationships between the government agency representatives and organizations in the local area. As one Clarenville public servant pointed out, "we're on different committees [together] and we talk on a regular basis. . . . We talk more than anyone else really." And, according to another interviewee, on the Bonavista Peninsula (which includes Clarenville as the largest service centre)

there are usually eight formal partner-meetings a year. At these meetings, in addition to the standard program and project funding matters, the three levels of government share ideas and solutions.

In all of the participating regions, representatives of government economic development departments and organizations such as the Atlantic Canada Opportunities Agency and the provincial Department of Innovation, Trade and Rural Development live and work in the local communities. These individuals witness community concerns first hand and serve as liaisons between the communities and their departments. One example of effective governance can be observed in Labrador West where respondents noticed that all three levels of government are becoming increasingly involved in the region and that the municipal councils, in particular, are very involved in issues that affect local residents and regional prosperity. Additionally, when Labrador West residents solicit government participation, they maintained, their requests are normally fulfilled.

Despite the overall sense of cooperation, municipal and provincial priorities do not always align, and with the disparity in available resources, the province gets its way. For example, a Clarenville resident describes inter-government relations in this way:

> The province really holds the purse string for towns, no matter how much they say they have their own budget. . . If we need a road paved and we don't get the money from the provincial government, it's not done . . . We work together, but a town's priority is not the same as the province.

"The province really holds the purse string for towns, no matter how much they say they have their own budget. . . If we need a road paved and we don't get the money from the provincial government, it's not done . . . We work together, but a town's priority is not the same as the province."

Resident of Clarenville Region

Among interviewees in the St. John's region, the common view was that provincial government support for them is inadequate. They are the only relatively large city in the province and subsequently do not have the critical mass to lobby and make the concerns of a more densely populated city a priority in the way that rural communities can band together to lobby and make their voices heard in the Confederation Building. One interviewee argued that the St. John's region has to take a back seat to rural communities in regards to government attention because, while the St. John's region is an economic driver, the province seems focused on efforts to mitigate rural decline, failing to recognise the "real importance of cities." The perception of St. John's municipal officials is that they are at a special disadvantage. As one St. John's interviewee put it:

> I think the province could have more respect for the municipal level in the sense of the importance of a city the size of St. John's as an economic driver and as a leader at the municipal level. They don't want to do anything for St. John's that they can't do for the whole province… you can't have a one-size-fits-all solution to it… I would like to see better linkages, formal linkages, between the provincial government and the city government, and

> with the federal government…treating municipalities in the way they do constitutionally tends to… denigrate… the real importance of cities.

Federal and provincial support for the St. John's-based ocean technology cluster and the provision of significant resources through the Poverty Reduction Strategy to St. John's region NGOs, would seem to contradict this perception that St. John's is being overlooked. However, these are targeted to particular economic or social initiatives, which are located in the city. That is quite different from decentralizing resources and empowering municipal organizations to make decisions on how they allocate those resources.

Regional Cooperation

The cooperation of all three levels of government is one aspect of governance. Another is the cooperation among municipal governments within the same region. This is an issue throughout Newfoundland and Labrador as amalgamation is discussed in a number of communities and as regional cooperation processes are explored.

An often-cited desire in all of the regions was for more regional cooperation among towns in the respective regions in joint planning initiatives and in sharing services. In Clarenville, a local economic development professional described how difficult it is to bring all the local municipal leaders together in the same place at the same time. This interviewee suggested that this is an impediment to working jointly on regional projects.

The City of St. John's and its neighbouring municipalities do not have strong communication networks either. Mayoral candidates in the last St. John's municipal election were in favour of amalgamation with neighbouring communities; however, the provincial government has a policy that discourages forced amalgamations. This reluctance can be traced back to attempts to merge small municipalities decades earlier which had negative political impacts on the party then in power. Nonetheless, the St. John's Corporate Strategic Plan, released in June 2010, included as one of its three strategic directions to "support and advance amalgamation of communities in the St. John's CMA." In the assessment of opportunities and threats in the plan, "advance amalgamation" was an opportunity while "redundancies in governance within the region" was a threat. But another threat was the "perception of weak relationships with other municipalities" (St. John's, 2010).

Attempts have been made to increase regional cooperation without amalgamation. For example, there is a voluntary Northeast Avalon Joint Council which does provide a forum for information sharing, but not all the key issues can be addressed because discussing some topics will "cause disputes and divisions" (Municipalities NL, 2010b, p. 18). Similar bodies exist throughout the province (for example the Humber Joint Council in the Corner Brook region) but participation is voluntary and there is no capacity to enforce recommendations, so these bodies are not as effective as they could be. Local Service Districts (LSDs), as a unit of municipal government, provide services like fire protection, garbage collection, and sewage to areas outside of incorporated municipalities. But they are also problematic. In the Clarenville region, interviewees were dissatisfied with LSDs because they felt residents in the local service districts received all the services of the municipality without paying taxes. Municipalities NL, the umbrella organization for municipalities, has released discussion documents on regional governance and conducted research on innovations in inter-municipal

cooperation (2010a and 2010b). In many cases, neighbouring communities are exploring new service-sharing arrangements as a means to maintain services with limited resources. Among these groups there is a willingness to explore regional governance mechanisms, if not amalgamation. Access to sufficient resources is a re-occurring theme.

NGO Roles

While municipal government faces the common challenge of lack of resources and recognition from the provincial government, the four urban regions in this study exhibited quite disparate experiences with the role of NGOs.

A Corner Brook interviewee observed that many local organizations in his area have similar mandates; however, when they work together, in the hopes of inclusivity, there are too many players at the table, making consensus difficult with so many different opinions. Another resident elaborated on this and noted that internal politics influences the people who take action in the community. Then they appear to be working against each other and that, according to the resident, may be what gives Corner Brook its reputation for being closed to new ideas.

> As a regional NGO, supported by the provincial and federal governments, REDBs can play a key role in fostering multi-community and multi-organization collaboration in their regions.

In Labrador West, interviewees indicated that a culture of collaboration is emerging there. A successful example of an integrated governance initiative in Labrador West occurred when several local not-for-profits partnered with all three levels of government to address local housing concerns. Their efforts resulted in a multi-year project that created a number of affordable housing units. This collaboration and others like it has also created positive affiliations between the wide range of community groups and stakeholders and has helped promote the notion of community-based problem solving.

As a regional NGO supported by the provincial and federal governments, REDBs can play a key role in fostering multi-community and multi-organization collaboration in their respective zones. Twenty economic zones were established in the 1990s based on the recommendations of a federal-provincial task force, which also included municipal, business, labour, community development, and women's organization representatives. Each zone established a REDB composed of representatives of municipalities, business, labour, community development organizations, education and training institutions, and others according to the characteristics of the zone. REDBs receive federal and provincial government support to employ staff, carry out consultations and develop a strategic economic plan for their zone.

The federal and provincial governments have continued to support REDBs, but resourcing is limited and they have been forced, through annual work plans, to limit their activities very narrowly to economic development, and to serve strictly as a coordinator and planner, not as an implementer

(Douglas and O'Keeffe, 2009; Vodden, 2009; 3-3; 8-3). In the St. John's region, the REDB has had a particularly difficult time in navigating the competition between St. John's and its neighbours. St. John's is also where the provincial offices for the various industry associations reside, along with most of their members, and according to one informant they see the REDB as competition. Consequently, the REDB initially focused on how economic and social development can be integrated, which was consistent with a provincial Strategic Social Plan in the 1990s. Good work was done relating to labour market development, in particular, but with the change in government with the election of the Williams PCs, the Strategic Social Plan was moribund, a Rural Secretariat was established in its place and REDBs were given very tight funding conditions to stick to economic development (Douglas and O'Keeffe, 2009; Ministerial Committee, 2005). The REDB recently completed a new strategic plan for the zone, which focused on helping the rural communities around St. John's and its urban neighbours. These essentially rural communities are part of the commuting area of St. John's, and they are now coping with influxes of new residents, driving up property values and increasing demands for services. Most of the rural residents have expressed a desire to improve local services, while maintaining the rural nature of their communities: "let Walmart stay in St. John's," said one interviewee (Capital Coast, 2008; 8-3).

REDBs in the three smaller urban regions studied all complain of lack of resources, constant changes in government policy and demands for time-consuming performance monitoring. An initiative originally designed to enhance regional collaboration and priority setting has, according to those involved, become mired in federal-provincial red tape and a lack of commitment to decentralization.

The social sector NGOs within St. John's present a compelling contrast. Working on such issues as affordable housing, youth employment, women's shelters, and services for people with disabilities, these groups have worked effectively with the provincial government to create a policy environment conducive to collaboration. That includes access to the financial resources necessary to implement programs and supports. Extremely dynamic and collaborative leadership in the NGOs has worked hand-in-glove with government officials to help shape supports and leverage them with federal, municipal, and industry resources. These NGO leaders repeatedly referenced each other as trusted collaborators who share information, partner on projects and foster innovation in social programming that has been recognized as leading the country. They reference the provincial government's Poverty Reduction Strategy as provided the framework and resources for their success.

A senior provincial government official involved with the strategy emphasized how government departments work closely with grassroots organizations in implementing the strategy, and how they had come to realize that the level and professionalism of their collaborations was a strength in NL compared to other provinces. The official talked extensively about the need for inclusiveness in their work, to actively engage with communities, since poverty reduction addresses the needs of people all too often "left behind."

These views are corroborated by individuals leading social sector NGOs who are partnering with the provincial government in managing funds through their organizations for poverty reduction initiatives. The head of a leading social services agency in St. John's claims that their access to government officials is excellent. They can regularly count on meetings when needed. They see their work as part of a larger entrepreneurial effort to effect real change in the lives of the people their organization assists. This approach to "social enterprise" involves a new way of supporting people with disabilities to join the labour force. Through the relationships established between government and community, NGO leaders reported being able to "make one phone call" to solve an issue that a client had been fighting with for months. Another senior government official stated:

> We finally figured out that government is better served by engaging in equal partnerships, where not only do you learn stuff from other people but you're better at executing it and recognizing it.

> Not only is collaboration evident in relations between the provincial government and the social sector NGOs, but there is also a virtuous circle of inter-organizational cooperation among the NGOs... People are starting to understand that sharing information is not giving it away.

Not only is collaboration evident in relations between the provincial government and social sector NGOs, but there is a virtuous circle of inter-organizational cooperation among the NGOs. Where, ten years ago, they would not have worked together because they would have seen themselves as competitors, "today they're sitting on each other's boards." If one organization applies for funding, they get letters of support from other organizations. One NGO leader noted that there are 150 organizations working on social development in the city. "If we know that organization A is doing something really well," she noted, "and organization B, that's their challenge, if we put two of them together, they are going to be stronger organizations and they are going to meet the needs of more people… That's my major role—connectivity," she added. Another NGO leader explained that, "People are starting to understand that sharing information is not giving it away."

Outside the City of St. John's, interviews in neighbouring municipalities and regions attest to the absence of capacity in their organizations. In suburban Mt. Pearl, a municipal official noted that there are no dynamic social NGOs like those in St. John's— "they provide a service for the region yet we don't have a lot of association with them right now." The City of Mt. Pearl had just established a Department of Community Services, which completed a study on affordable housing. He hoped this type of work would "move us towards more social equity and social inclusion." He added that, unlike St. John's, "we're compact, we can reach our citizens much easier because we're smaller…we can easily connect."

Even one of the dynamic St. John's NGO leaders acknowledged that while the same challenges exist in rural areas—mental health, addictions, homelessness and violence, and literacy—it is difficult to conceive how to address the need. NGOs based in St. John's recognize the need but acknowledged

that, "It's impossible for us to mobilize groups around homelessness in all parts of the province." In these areas, a senior government official suggested, provincial government delivery through community health workers employed by the health boards may be the best approach to issues of homelessness.

Interestingly, all the key social sector NGO leaders referenced repeatedly in interviews are paid staff, hired by St. John's-based organizations benefitting from the Poverty Reduction Strategy. If there is a capacity gap with municipalities, REDBs and other NGOs, one place to look is the funding available to hire top quality staff, leaders who can then leverage additional funds and partner effectively in the virtuous circle of capacity building and associative governance. In their absence, the delivery defaults to the provincial government as the only other available option.

> One NGO received a donation of land from the City worth $ 50,000 and the City waived fees on certain business taxes. That organization now owns its own building "mortgage free" and rents to another NGO and to twenty provincial government staff.

Fiscal Resources

Access to funding clearly has a lot to do with this circle of NGO collaboration in St. John's. One NGO leader explained that they started with a grant of $20,000 to organize a conference and "ended up having a $180,000 conference… with people here from all over Canada." The provincial government funded the Poverty Reduction Strategy starting in 2006-07. In the 2010-11 provincial budget $134 million was committed to more than 80 ongoing initiatives under this strategy (Government of Newfoundland and Labrador, 2010, p. 2). Support is not only coming from the provincial government, through the Poverty Reduction Strategy (although several NGO leaders lauded it as the main source of support). Several NGO leaders praised the City of St. John's for its support. One NGO received a donation of land from the City worth $ 50,000 and the City waived fees on certain business taxes. That organization now owns its own building, mortgage free, and rents to another NGO and to 20 provincial government staff. Such partnerships take lots of time and effort— "took us about two and half years to put the model in place,"—but they noted that if they can demonstrate sustainability, funding follows.

Another source of funding support recognized by the social sector NGO leaders was the private sector. The energy (including oil and gas), mining and banking sectors were all noted for their contributions to social sector NGO initiatives, from employment programs for people with disabilities, to youth programs, and women's shelters. One approach noted was to use private sector funding for innovative programs for which it was hard to access government funding. Once the concept was proven, "the Provincial Government now funds it for $90,000 per year." As these social sector NGOs demonstrate success, they attract further corporate support, "because of the visibility here." One supportive housing initiative has 18 suites. Each one is being supported by a corporate partner. Unions, beer companies, and others, are all contributing.

Interview responses indicate that NGOs outside the St. John's region feel there is a great deal of

competition for limited government funding. As a result, they are reluctant to cooperate with other organizations because they see each other as competitors. Economic development and municipal representatives in all four urban regions were frustrated with the lack of appropriate resources and the resulting lack of capacity at the local level. This is exacerbated because the provincial government has greater financial capacity than ever before in the province's history but decision-making is seen as more centralized. This is a particular concern for REDBs.

Leadership

Among the leading social sector NGOs in St. John's, leadership capacity is not a problem. Interviews in government and among NGOs result in ten to 15 names being highlighted repeatedly for their vision and their ability. A whole new group of dynamic, nationally-recognized social entrepreneurs has emerged, partly in response to the resources and the need identified by the Poverty Reduction Strategy. One NGO leader stated that St. John's social sector NGOs were being recognized as leaders in the country. He has invited leaders from national organizations to join his board, as he builds the "pipelines" that maximize knowledge and learning from the outside: "the more we learn, the more we give, and there is a very reciprocal knowledge exchange."

> Outside the St. John's region, inadequate or insufficient leadership was cited by interviewees as a primary factor in the failure of local networking activities, particularly in the cases of Corner Brook and Clarenville.

He went on to emphasize the importance of building relationships, while also being able to deliver on your core programs and activities:

> The only tool in the toolbox I have is a decent relationship... the breadth of relationships and partnerships you develop... You've got to know your stuff. You've got to have your evidence, you've got to be competent, you've got to be capable... it's about having decent relationships backed up by, 'these guys can do the work.'

Oceans Advance and the social sector NGOs in the St. John's region attribute much of their success to the efforts of their leaders. As one interviewee observed, developing partnerships with organizations, businesses and governments in the community takes a good deal of time and effort, but, as mentioned above, if the organization is able to demonstrate sustainability, funding is more likely to follow. These partnerships are cultivated by strong leaders who often use their skills to find ways to leverage funding to keep their organizations in operation.

This is not necessarily the case in other areas of the province. Interviewees indicated that there is a perceived need for more leadership in business and in NGOs.

If there is a lack of leadership capacity in this study's urban centres outside the capital region, then perhaps there are lessons to be learned from the St. John's region. One potential explanation is that all

of the key social sector NGO leaders that stand out in St. John's are paid staff, hired by organizations benefiting from the Poverty Reduction Strategy and similar funds. As leaders they can dedicate their time to the organization. On the contrary, in other areas of the province, many leaders come primarily from a decreasing group of very busy volunteers. To address this challenge in local governance, one solution may be to look for funding to hire top-quality staff, either from within the region or from elsewhere. These paid leaders may then be able to leverage additional funds and partner effectively through associative governance; however, for such initiatives to succeed provincial and, to lesser extent, federal policies must be updated to recognize regional realities and to support the decentralization of resources necessary to cope with those realities.

Conclusion

Innovation and creativity offer benefits for regional economic activity in the urban and rural centres of this province. There are significant global business opportunities for those regions that invest strategically in the knowledge-based economy. According to recent literature, innovation and the underlying social processes of communication are vital to growth in the global economy. And it is within regions where the social conditions are to be found that drive individual and economic competitiveness. In a country as regionally diverse as Canada this presents an opportunity to compare and contrast the range of factors that drive the knowledge-based economy.

This was in part the aim of a national study by David Wolfe and Meric Gertler at the University of Toronto. They set out to determine how knowledge was shared in urban regions, to map the social dynamics of innovation, creativity, and social inclusion, and to explore regional governance. Canada-wide the project included 22 partners who investigated the three themes in 15 city-regions across Canada.

Investigators in this province theorized that smaller cities and rural areas have very different challenges and opportunities for economic success with a unique flow of knowledge, levels of diversity, and ways in which various levels of government inter-relate. To test that theory they used the national interview process that was developed for larger urban regions as a framework to analyse innovation in four regions in this province with lower population densities, different economic bases, and regionally distinct challenges and amenities. The aim was to discover unique circumstances related to innovation in those smaller urban centres including: the St. John's region (the only NL region originally included in the Wolfe study); the Clarenville region; the Corner Brook region; and the Labrador West region.

The key challenges and advantages of the NL regions were framed within the context of the study's three themes:
- Theme I: Social foundations of innovation
- Theme II: Talent attraction and retention
- Theme III: Governance.

All four regions had a limited number of key economic sectors. Innovators, entrepreneurs, governments, and NGOs in these centres must overcome regionally-specific challenges imposed by the small scale of the regional economies in order to:
- develop clusters
- attract and retain skilled workers
- access knowledge and research capacity from universities and other research and development institutions.

This project highlights the fact that innovation and creativity can and should be understood and advanced in urban and rural regions alike because, in both contexts, they exert a positive influence on the regional economy.

The urban centres studied in NL—which would be considered rural in the national study—impose real limitations due to their small scale. Developing clusters, attracting and retaining skilled workers, accessing knowledge and research capacity from universities and other research and development institutions - all of these are bigger challenges for smaller urban centres. The St. John's region, considered a small urban area in the national project, faced similar challenges due to scale in retaining highly-trained and creative workers in the arts and academic sectors. But these challenges are not insurmountable. The ocean technology cluster in St. John's is proof that a relatively small urban centre can succeed in building a cutting-edge, globally competitive, innovative industrial and learning system.

The three smaller urban centres demonstrated significant success in creating a high quality of life for their residents through a range of resource-based and service-sector activity. In appears that the farther from St. John's, the better the level of collaborative regional governance. That may be due, at least in part, to the benefits of distance which remove local governance from the federal and provincial political battles in the capital, allowing local leaders to focus on the job at hand. The two obvious exceptions to this rule are the St. John's ocean technology cluster and the innovative social sector NGOs in the capital. In fact, so exceptional are those social sector NGOs in St. John's that municipal and regional development organizations in all regions of the province can learn from the trust and collaboration they practice on an ongoing basis.

All four regions studied in NL demonstrated the significance of commitment to place. Almost without exception, people interviewed in the private, community, and public sectors spoke of their sense of home and belonging as a prime driver to live and work where they are. Some "CFAs" reported that sense of belonging could be hard to break into, although many noted they were Newfoundlanders by choice (NBCs). And while visible minorities remain relatively few compared to Canada's largest urban centres, the high numbers of "been aways"—people from the province who have returned after studying and working away—introduces a rich hidden diversity of knowledge and contacts from which to draw innovative and creative ideas and opportunities.

The biggest deficiency in the province (perhaps fortunately) to achieving the conditions identified by the national project for innovation and competitiveness, is governance. It is fortunate because this is within our power to change. It is a product of decision making, not one of natural attributes or rare sectoral expertise or even money. And while political culture is difficult to change, it can be done. The ocean technology cluster and St. John's social NGOs are proof that it can and does happen. And almost all those interviewed for the governance theme recognized that greater local capacity was needed to succeed. Municipalities, REDBs, and other local organizations are crying out for a greater role in fostering the conditions to drive the economy. The social foundations of innovation may find a unique opportunity to take hold in the regions of Newfoundland and Labrador if the existing strengths are exploited and the current weaknesses addressed.

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