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# **Locating for Potential: An Empirical Study of Company X's Innovation Centre in Vancouver, British Columbia**

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**Abstract:** The greater Vancouver, B.C. region has long been seen as an outpost to a staples economy (Innis 1999; Hutton 1997; Barnes 1996) and a gateway to the Asia Pacific for over one hundred years (Edgington and Goldberg 1992; Hutton 1998). However, over the past two years a leading US based high technology firm, referred to as “Company X”, established a key innovation centre in Vancouver. Clearly, it is a very exciting time for the Vancouver region as it makes this transition from being a “timber town” towards becoming a creative hotbed of global talent (the international creative class) and being seen as a possible leader in new ideas that propels the global software industry forward. Thus, at this time, it is important to take a closer and more in-depth look at the reason for Company X’s initial reasons for choosing Vancouver over other comparable locations, whether regionally, nationally, and/or globally when it came to selecting a site that would allow it to gain access to potential pools of highly skilled labour not living in the immediate vicinity of the Vancouver region.

Geographers have paid considerable attention to firm location decisions when it comes to access to human capital over the past 80 years. These approaches range from neoclassical location theory, to the works of Jane Jacobs and Ullman (1958) who both stress the importance of existing talent contributing to regional development. More recently, Glaser (2000) emphasizes the importance of common pools of talent, which allow firms to cluster together in regional agglomerations, as opposed to inter-firm linkages. Finally, Gottlieb (1994; 1995) stresses that high tech firms choose locations based on residential and lifestyle amenities. However, none of this existing literature explores the location choice process and preferences for a world-class firm seeking potential talent and labour not yet realized. Therefore, this presentation will advance the main hypothesis that the economic geography of a high technology firm will be attracted to a region that enables and facilitates low barriers of entry for potential global talent. It will also build on the existing literature, which explores the factors that attract talent and shape its economic geography. As well, in light of providing a locational decision for potential talent, the notion of jurisdictional advantage (Feldman and Martin 2005) will be used in order to provide the theoretical foundation needed to set the stage for the creation of the development of a new location theory called “Potencia”.

**Key Words:** Location Potential, Canada, High Tech Innovation Location Decisions, Potential Talent, Potencia

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Exactly one year ago we opened our doors to our first 21 new employees..... Today, we don't have a room big enough to hold all 300 of us! That's the growth we have experienced over the past year and that is something we should all be proud of. I believe deeply that the power of technology can transform businesses and the lives of everyday people. As a Canadian, I am thrilled to be here –in Vancouver, in British Columbia, in Canada. I'm proud of the management team we have assembled and the type of work we are able to do here. And I'm so pleased that everyone in this room today shared the belief that a high technology innovation centre belongs in British Columbia.....Canada is helping shape the future of technology. And, in doing so, it's helping to build and strengthen its economy by becoming more productive and more competitive in the global area.

*Managing Director, Company X Innovation Centre  
Canada Grand Opening, Vancouver, British  
Columbia, Canada 2008*

## **1. Introduction**

Despite the high profile arguments to the contrary, geography – location, proximity, access – remains a preeminent concern for firm-level business strategy, and as a matter of economic development more broadly. Long ago, Richard Warren Sears founded his catalog business in Chicago because of its status as a transportation hub. Oil companies in the United States and Canada continue to be predominately located in Houston and Calgary, command centres within the productive heartland of refining and extraction in each country. (The same is also true for many manufacturing headquarters in Central Canada and the American Midwest.) And Jeffrey Bezos drove cross-country to start Amazon.com to draw on Seattle's deep pool of technical talent.

Much scholarship has taken up the question of why geography matters for economic success. From the perspective of neoclassical location theory of Weber (1929), transportation and labour costs as well as human capital “agglomeration forces” are place-based factors that bear on the success of firms. Later, Jacobs (1961) called attention to the fact that the density and amenities unique to large, diverse cities are critical to producing the talented and innovative milieus from which successful firms are created. Ullman (1958) acknowledges the role of talent in his widely cited work on regional development and the geography of concentration.

In the period since this formative research, globalization has significantly altered the location calculus of economic activity. The increasing mobility of capital has made it easier for corporations to outsource production and routine service activity to low-cost locations. But the net result has not been the diminishing importance of place in firm activity. Higher-value firm activity like strategy, technological innovation and design continue to draw heavily on assets that are not evenly distributed across regions: talented labour pools, sophisticated market actors and centres of knowledge creation. In this new competitive environment, human capital is seen to trump physical and financial capital as a primary determinant of location.

Since the mid-1990s there has been a wealth of research which has illuminated the fact that it is skills rather than costs, which compel location choices in many sectors of the economy (see Saxenian 1994 and Glaeser 2000). Glaeser (2000) notes that access to common pools of talented workers, more than any other factor, creates the regional conditions in which firms will agglomerate. In fact, in the most knowledge-intensive sectors, firms often choose locations based on residential and lifestyle amenities, factors which are relevant to their workforce but have no direct bearing on firm operations (Gottlieb 1994; 1995).

The role of human capital in firm location choices is well-documented. But when examining the motives behind firm location choices, researchers have tended to focus their attention on existing conditions. But our study of one prominent technology firm's choice to locate a new research and development facility near Vancouver, Canada suggests a new dynamic is at play. In fast-moving knowledge-intensive industries, location choice is driven less by in-place assets and more by a location's ability to attract assets, particularly highly-skilled workers, from elsewhere. Today, the most successful firms and business units must be aware of the advantages that can come from a location's *potential* to attract key factors, especially diverse talent from around the globe.

We argue that with the rise of a global economy and the critical importance of high-skill labour, firms make locational choices based on the potential to attract talent. Through numerous on-site visits and personal interviews with key company personnel and regional leaders, our field work probed Company X's original location and site selection process, its key decision-making criteria, the key characteristics of the location, its related HR and talent strategy, and the evolution of the development center over its first eighteen months of existence.

What we found was that while Vancouver has a highly-educated labour force, largely comprised of workers from abroad, it is particularly well positioned to take advantage of future global talent flows as well. We enumerate four reasons why this is the case: openness, proximity, lifestyle, and diversity.

First, one of the most important factors behind the firm locational choice we analyzed was the openness of the region to access a pool of highly talented workers from abroad. . Since the mid-2000s, Company X has confronted increasing difficulties securing visas and immigration status for its engineering staff to work in the United States, especially as the US Congress set repeatedly prohibitive limits on the US H1-B visa (Abate 2007). The ever increasing restrictive climate brought on by the post-9/11 Bush Administration and the US Department of Homeland Security regarding the admission of foreign workers created barriers to attracting the global talent desired by Company X (see Richardson 2006a and Wadhwa et al 2009 for a discussion on this trans-border cultural experience in general). In contrast, immigrants to Canada are seen as being subject to less restrictive policies. This perceived openness was a critical factor behind Company X's decision.

Second, despite the emergence of new communication technologies, proximity still matters. Vancouver was attractive to Company X because of institutional and cultural

advantages that were created by locating outside of the US, while simultaneously presenting relatively few challenges for communication or transportation from the company's Northwestern US headquarters. Literature has detailed the idea of time-space compression since the 1960s (see Janelle 1968 and Harvey 1990 especially). Company X was explicit in wanting this key innovation centre to be in the same time zone as its headquarters and be readily accessible – a typical automobile trip between the two locations would take no more than two-and-a-half to three hours.

Third, regional lifestyle amenities figured prominently in the firm's location choice, but not in the traditional sense of lowering factors costs of production. More important in this case, were the features of a location which positively affected the ability of Company X to attract (global) talent. As a relatively safe, pollution-free city, situated amidst the natural beauty of Canada's west coast, Vancouver is often proclaimed to be one of the world's most livable places in North America.

Finally, diversity, rather than merely a laudable social objective, was also seen as a significant asset to firm operations in Vancouver. Many researchers have noted how high-tech firms depend on high-skill labor from many countries of origin (See Saxenian 2006, Wadhwa 2008, and Richtel 2009).

We advance the main hypothesis that the economic geography of a high technology firm will be attracted to a region that enables and facilitates low barriers of entry for potential global talent. The article will concentrate, as well, on the combination of other location factors that Company X considered when looking for a geographical location to attract and retain potential global talent. In light of assessing the combination of factors necessary to enable a region to be open to providing a location decision for potential talent, the notion of jurisdictional advantage (Feldman and Martin 2005) will also be used to frame the unique combination of factors found within the Vancouver region that Company X found essential when seeking a geographical location to attract potential global talent. All of these theories and concepts will play a role towards setting the stage for the creation of a new location theory called "potencia".

## **2. Concepts and Theories**

### **2.1 Location Theory in General**

Historically, location theory was based on access to factor endowments that were basic to industrial production. Atkinson and Gottlieb (2001) argue that factors such as available low-cost labour, sufficient physical – particularly transportation – infrastructure, and natural advantages such as waterways and coal, were seen as key to explaining firm location choices (For an extensive literature review and critique of industrial location theory, see Massey 1973.) Now, many firms participating in a creative or knowledge economy are interested in seeking out locations where innovative ideas and technology are embedded in services and manufactured products. Florida (2002a), (Mellander 2008) and Atkinson and Gottlieb (2001) argue that the one discriminating factor in this new era of location theory is highly skilled professionals (or the creative class) that fuel the ideas

behind the innovation. Cohen (2000) goes on to emphasize the place-based needs of research and development activity, which include proximity to concentration of universities, clusters of highly educated workers, or alternatively, lifestyle amenities that can draw this type of talent from elsewhere. Florida and Kenney (1994) found that Japanese foreign direct investment was targeted to highly-innovative areas that would allow them to acquire new sources of knowledge and embedded ideas. Access to the “spillovers” generated by foreign human talent was pivotal to these Japanese firms’ location decisions.

## **2.2 The Location of Talent**

The conventional economic view towards the movement of talent across regions argues that locational choices can largely be understood by merely observing the health of the local job market. Individuals are attracted to regions with lower unemployment and higher wages. However, current research suggests that for highly-mobile workers, job opportunity is but one factor that they consider when choosing a location. As argued by some researchers, locations attract highly skilled people by providing a range of lifestyle amenities (see Gottlieb 1995). Kotkin (2000) finds that high-technology industries and workers, especially, are attracted to a range of lifestyle amenities. Glaeser, Kolko, and Saiz (2001:48) found a significant relationship between amenities and city growth. This finding suggested that not only do highly-skilled workers increase productivity, areas with high levels of human capital will be desirable places to live. They concluded by stating, “If cities are to remain strong, they must attract workers on the basis of quality of life as well as the basis of higher wages.” Glaeser (1999) notes that cities attract people as well as firms through the interplay of both market and non-market forces.

Recent work has argued that regions must provide low barriers of entry for talent in order to prosper (See Florida 2002a; 2002b; 2005). Most of this literature explores how regions can attract highly skilled people, or the creative class individual, as opposed to the type of firm needing to hire these types of individuals. Jacobs (1961) long ago noted the importance of human as well as firm-level diversity in fueling innovation and city growth. Desrosiers (2001) follows by exploring the relationship between diversity, creativity, and regional innovation. Zachary (2001) argues that openness to immigration will be pivotal if the US intends to remain competitive in high technology fields. Saxienian (2000, 2002, and 2006) found that roughly twenty-five percent of new business formation in Silicon Valley had a Chinese- or Indian-born founder and that one-third of the region’s current scientists and engineers were foreign born.<sup>1</sup> In their study of leading US technology centers, Wadhwa et al. (2007:1) found a disproportionate percentage of immigrant startups within these leading technology centers when compared to overall state averages: This included Silicon Valley, with 52.4 percent (compared with a state average of 38.8 percent); New York City with 43.8 percent (vs. 26 percent); Seattle with 23.4 percent (vs. 11.3 percent); and Research Triangle Park with 18.7 percent (vs. 13.9

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<sup>1</sup> It should be stressed that “Silicon Valley” emerged and evolved by the 1950s based on the vision and drive of domestic entrepreneurs, as well as the region’s ability to access existing pools of labour already situated within Silicon Valley. See Kenney (2000) for an in-depth discussion of the emergence of Silicon Valley as a region.

percent).<sup>2</sup> However, none of this existing literature explores the location choice process and preferences for a world-class firm seeking potential talent and labour not yet realized.

### **2.3 Talent and Regional Growth**

Jacobs (1961; 1969) stressed the central role of people in the creation and structure of economic activity in cities. She argued that cities play a critical role in economic development through the generation and mobilization of new knowledge. The key point is that the diversity of economic actors within a city and their high level of interaction enable the creation and development of new products and new technologies. Anderson (1985) and Desrochers (2001) found that the ability to incubate and encourage creativity in addition to attracting creative people is essential to regional development. Romer's new growth theory (1990) highlights the nexus between knowledge, human capital, and economic growth. Lucas (1988) found that cities function to collect and organize human capital, which give rise to strong external economies. He refers to this as external human capital. Glaeser, Sheinkman, and Sheifer (1995) found a strong relationship between human capital and city growth. They found that cities that begin with more educated populations exhibit higher rates of population growth as time goes on. Glaeser (2000) found that access to common pools of labour or talent is what reinforces the tendency of firms to cluster together in regional agglomerations, rather than inter-firm linkages. Both Simon (1998) and Glendon (1998) found a strong relationship between technological creativity (measured as regional innovation and high-technology industry) and cultural creativity (measured by a "bohemian index,"), which included the regional share of artists, musicians, and cultural producers. Florida and Gates (2001) discovered a positive relationship between regional concentrations of high technology industry and several measures of diversity, including the percentage of the population that is foreign born, the percentage that is gay, and a composite diversity measure. Florida (2002b) argues that regional economic outcomes are connected to the underlying conditions that facilitate creativity and diversity.

### **2.4 The Role of Diversity**

Florida (2002a) argues that diversity play an important role in attracting talent or human capital. Diversity plays a key role in the attraction and retention of the kinds of talent that is needed for high technology industry and overall regional growth. Historically, Jacobs (1961) called attention to the role of diversity and immigration in fuelling city growth and innovative ideas. Desrochers (2001) highlights the relationships between diversity, creativity, and innovation. Zachary (2000) argues that openness to immigration is a key factor to innovation and economic growth. He emphasizes that the United State's competitiveness in high technology fields is directly connected to its openness to outsiders, while Japan and Germany's stagnation is tied to "closedness" and homogeneity. Saxenian (2000; 2002; 2006) in her extensive study of Silicon Valley found that approximately one-quarter of new business formation had a Chinese or Indian born founder, and that

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one third of the region's scientists and engineers were foreign born. Florida and Gates (2001) found a positive relationship between diversity and high-technology industry. In their recent study of leading US technology centers, Wadhwa et al. (2007:1) found a considerably higher percentage of immigrant startups within these leading technology centers when compared to overall state averages.

Diversity, or low barriers of entry for talent, increases a region's ability to compete for talent. It is the region's ability to attract and retain talent that is increasingly the determining location factor that firms look for when searching for regions that will allow them a competitive edge in today's creative economy. Now, with the United States becoming more restrictive towards highly skilled foreigners (see Florida 2005 and Zakaria 2008), some US high technology firms are taking this concept a step further and searching for regions that will provide low barriers for entry for potential global talent (see Macdonald 2008 and Zakaria 2009). Thus, these regions that are open and possess low barriers to entry for potential human talent will possibly gain distinct economic advantage when it comes to the competition for potential highly skilled human capital. This advantage, in turn, propels the region's ability to generate and attract high-technology industries and increases the region's overall incomes.

### **3. Research and Methods**

This paper presents the results of a detailed case study of Company X Canada Innovation Centre, officially established in Vancouver, B.C. in mid-2007. The case study took place over ten months, from June 2008 through March 2009, and was oriented around detailed, semi-structured interviews with executives and senior management at the Company X Canada Innovation Centre in Vancouver, British Columbia, Canada. The semi-structured interview method was selected in order to better understand the decision-making structure and firm priorities when it came to seeking a location for an innovation centre. These various executives and managers were interviewed several times in order to further explore and probe the key factors that were instrumental in choosing the Vancouver region as a prime development site. Specifically, the innovation centre's managing director, facilities manager, and senior human resource manager were interviewed one to seven times for one to two hours per meeting in order to gain the insights and clarity needed for a study of this sort. Types of questions revolved around three major areas of interest.

- (1) Site Selection.** From a perspective of economic geography, this area of interest included examining the fundamental components that Company X looked for when selecting innovation centre sites, whether globally or regionally.

Why did Company X choose the Vancouver region? What were the key advantages that Vancouver displayed, which were instrumental to decision makers at Company X noticing the Vancouver area? Why did Vancouver have *prima facie* "advantages" over these other regions? What features did the Vancouver region have that were similar to other Company X innovation centre sites, and how did it differ? How did the proximity to Company X's Seattle

headquarters and the Canada-US border play into the selection of this site? Now that Company X Canada Innovation Centre has been in operation for over a year, did these advantages materialize as Company X anticipated?

- (2) **Talent Attraction and Retention:** The continued success of Company X is dependent on its ability to attract and retain the very best and brightest people from around the world. These people are in short supply since other global firms are aggressively pursuing these highly sought after people as well. However, the Vancouver region is world renowned for its quality of life and progressive cosmopolitan approach when it comes to encouraging and facilitating people from around the world to settle in Vancouver as new Canadians.

Where (what countries and locations) are these highly skilled technophiles from? What type of person is attracted to the Company X Canada Innovation Centre's Vancouver location? What factors were taken into consideration from the perspective of existing and possible Company X employees when it came to selecting the Vancouver site? Now that the facility has been in operation for over a year, what factors seem to be important as to why existing employees want to work at the Vancouver Innovation Centre? What has been the biggest draw regarding the Vancouver region for potential Company X employees over other Company X locations? What are employee needs and issues, specific to the Company X Canada Innovation Centre Vancouver site, which were unanticipated?

- (3) **Jurisdictional Advantage:** The study sheds light on the implications of the establishment of the Company X Canada Innovation Centre in assessing the competitiveness and economic development of the Vancouver region and British Columbia in general. To add a conceptual structure around this idea, Maryann Feldman and Roger Martin (2005) introduce a concept called "jurisdictional advantage", which includes a better understanding of the unique local intangible assets (managed and facilitated by political will and policy making) found within a particular geographic region that can enhance a region's competitive advantage. Thus, one important structural question is: what is the jurisdictional advantage of the Vancouver region when compared to other regions considered by Company X?

The quantitative component of the research included the analysis of the company's bimonthly newsletter for the Innovation Centre, from its initial release in February 2008 until September 2008. The newsletter series provided a wealth of statistical data regarding employee growth rates, countries of origin, skills mix, and degree profiles. Additionally, it provided a sense of the distinct workplace culture of the innovation centre. Additional information drawn from new stories, internet postings, and other external sources is also provided.

## 4. Findings

The first section discusses the particular labour force requirements of Company X, and how the perceived openness of Vancouver allowed the company to recruit its desired personnel. The second section highlights the importance of proximity in this site selection process, despite claims that new communication technologies render such considerations obsolete. The third section unpacks the perceived lifestyle attributes of Vancouver, and demonstrates how such cultural factors support the recruitment efforts of Company X. The final section discusses how the diverse ethno-cultural mix of Vancouver not only contributes to the social vibrancy of the city, but supports the local development and operations of firms like Company X as well as the Vancouver region.

### 4.1 Openness to Global Talent

Company X established the innovation centre in Vancouver in response to strong perceptions of a growing Vancouver region and skills shortage in the United States. The numbers of domestic graduates (for both the United States and Canada) in mathematics, physics, and engineering is on the decline (National Science Board 2008; Batalova 2007; NAFSA 2006). As a result, Company X has increasingly sought to attract educated workers from beyond North America, thus competing directly with other firms at a global level. The pressure to attract star talent to Company X, coupled with US immigration and labour mobility policies that set prohibitive limits on the numbers of professional work visas issued to foreign nationals, compelled Company X to look at Canada as a potential gateway between its North American operations and the global labour supply.

From an immigration policy perspective, Company X executives found Canada to be very open and facilitative towards allowing foreign professionals to enter and immigrate to Canada. Interestingly, one unique feature about Canada relative to other developed countries throughout the world is that it is seen as open to immigration, especially for professionals. In fact, of the 200,000 new immigrants that Canada grants entry to every year, approximately 130,000 of these immigrants fall into some sort of “professional class” based on the foreigner’s tertiary education and professional work experience (Citizenship and Immigration Canada 2008). There are a variety of programs dedicated to ensuring that foreign professionals working in high tech industries are expedited through the Canadian immigration system, both at the federal and provincial level. Through these programs, a technology professional’s visa application can be processed in a matter of hours (although it can take up to 6 months if there are complications), and the culture of the staff that adjudicate these applications viewed as “facilitative<sup>3</sup>.” (See Appendix I for a complete listing of Canadian immigration foreign professional programs relevant to the international talent recruitment strategies of firms like Company X.)

In response to the challenges of US immigration policy and the growing domestic labour shortage, Company X established its Canada Innovation Centre . Its original purpose was to focus on projects stemming from the Developers Division and its size was envisioned

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<sup>3</sup> See Chapter 5 of Richardson (2006) for an in-depth discussion comparing and contrasting the working cultures of Citizenship and Immigration Canada and the US Department of Homeland Security.

to be fewer than 100 employees at full build-out. At the time that the Company X Canada Innovation Centre location selection team began to make its final location decision, US immigration and labour mobility policy was proving to be increasingly inflexible when it came to allowing foreign professionals into the US for purpose of work, especially those entering on H1-B visas.<sup>4</sup> (H1-B visas are used for the majority of Company X's foreign professionals working in the US) Hence, when Company X announced internally its plans to establish an innovation centre in Vancouver, B.C. almost all the company's business groups came forward to express that their difficulties with foreign hires to the US and the desire to place this highly sought after talent at the innovation centre in Vancouver, B.C.

Due to the unanticipated degree of demand, the capacity and purpose of Company X's Innovation Centre in Vancouver<sup>5</sup> expanded rapidly within a matter of months. Within a year of opening its doors in September 2007, the innovation centre grew from 21 employees to over 300 employees by October 2008, with an average monthly growth rate of between 20-30 employees.

The majority of Company X's Innovation Centre employees come directly from countries outside of Canada and the United States. Almost all of Company X's business divisions are represented at the Canada innovation Centre, so there is a wide range of skills and expertise. The breakdown between testers, developers, and program managers is 50 percent, 40 percent, and 5 percent respectively ("other" makes up the remaining 5 percent). The vast majority of the testers, developers, and program managers have degrees in computer science, mathematics, engineering, statistics or a related discipline<sup>6</sup>. The degree ratio of the Company X professionals at the innovation centre is estimated as follows: 55 percent have bachelor degrees; 35 percent have master degrees; and 10 percent have Ph.D.s. These new employees hail from over 45 countries around the world, and sixteen different languages are spoken at the Company X Canada Innovation Centre Vancouver. The majority of the employees originate from highly competitive systems of education in regions of the world going through considerable economic and political transitions, such as Russia, China, India, the Middle East, and Africa. The Managing Director elaborated,

The people [at the Company X Canada Innovation Centre] are highly intelligent. In order to get to the top of the class in China, it is different from here. They come from highly competitive regions of the world. They are coming out of China and India, for example. They are very skilled at what they do.....this is the place

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<sup>4</sup>Since the mid 2000s US Congress has continued to prove to be less flexible with H1-B visas limits as compared to the late 1990s and early 2000s (see Abate 2007).

<sup>5</sup> Unlike other Company X innovation centres, the Canada Innovation Centre in Vancouver has professional staff working in all the company's business groups. In many ways, the Canada Innovation Centre could be described as a "Mini-Seattle", with almost all of its Vancouver employees directly connected to work teams in Seattle, Washington. In fact, the Canada Innovation Centre works on about 50 percent of all products and services created by Company X headquarters in Seattle.

<sup>6</sup> The occasional liberal arts degree is also found within the mix of undergraduate degrees.

[Company X Canada Innovation Centre] that attracts that young talent, which feeds the larger Company X funnel.

*Managing Director  
Company X Canada Innovation Centre  
Vancouver, B.C.  
August 2008*

Approximately 70 percent of the employees found at the innovation centre in Vancouver, B.C. are under 30 years of age (and only five percent are above the age of 40). The ratio of men to women is 7:1, and over 40 percent arrive at the innovation centre directly from university with no prior work experience. Company X representatives observed the youthfulness and diversity of the innovation centre's workforce as a significant asset in developing next generation, globally-marketed technology products and services. The Managing Director explained,

...but diversity is more than a nice story. [It is] more than something that makes us feel good about our cultural mosaic. It's also a competitive advantage for Company X and Canada....For Company X, as I said, being here is attractive to the best and brightest young developers, but that diversity also makes our products better. What's the best way to create products for the world? Simple. Have them be developed by people from every corner of the globe. The makeup of the Company X Canada Innovation Centre ensures that different perspectives and fresh ideas are the norm, not the exception, and this helps fuel innovation at Company X.

*Managing Director  
Company X Canada Innovation Centre  
Grand Opening, Vancouver, B.C.  
Fall 2008*

These young global technophiles, working as individuals and in high-performing teams, will lead Company X forward as the next generation of inspiration and imagination at Company X, which will eventually give rise to whole new ways of using technology in our lives. This global group at the Company X Canada Innovation Centre in Vancouver may quickly become the prototype for how software and technology will be developed in the future.

#### **4.2 Proximity Matters**

Time and distance were also key elements in the establishment of the Company X Canada Innovation Centre in Vancouver. While a rich vein of literature has detailed the phenomenon of "time-space" convergence and compression since the 1960s (see Janelle 1968 and Harvey 1990 especially), the findings of this case study counter these arguments. Company X explicitly indicated the preference for an innovation centre "to be in the same time zone" as its Northwestern US headquarters. Interestingly, with over

fifteen years of experience practicing global distributive development<sup>7</sup>, Company X has learned that time zones and physical closeness to project coordination still matter to job satisfaction. The Managing Director explained,

.....Canada has been looked at for many years. In my time, we began looking at Vancouver in 2001. Simplistically, it is very close. Hence, the management of the people is very easy from here. Unlike India, China or Israel, the mindset is different here.....It is in the same time zone. Same weather as well. Rain in Vancouver, rain in Seattle. We also have an innovation centre in Silicon Valley, and it is very easy to manage its benefits like Vancouver. It is a longitudinal axis thing. It's okay to have a DC in India or China, but if you have to do this on a weekly basis for two years.... Well, the challenge with managing someone globally is that every third night the person working in a dramatically different time zone has to get up and answer the phone for a work/report briefing.

*Managing Director  
Company X Canada Innovation Centre  
September 2008*

Although Company X still does practices global distributed development, which allows for work teams to be scattered throughout the globe, much of the work of these foreign employees at the Company X Canada Innovation Centre is both time and “human engagement” sensitive. Employees at the Company X Canada Innovation Centre spend considerable time collaborating with their work teams and managers at company headquarters, often by real-time teleconferencing or in-person meetings. This intensive work team interaction is made much easier by being in the same time zone, or “real time space,” as compared to the 3-hour time difference headquarter employees encounter in communicating with even the east coast of North America. The ease of “face-to-face” interaction between team members in Northwestern US and Vancouver has resulted in considerable movement of employees between the two locations, with headquarter managers visiting Vancouver for the day to check in on a project, and Vancouver employees traveling to Seattle for weekly team meetings. The Facilities Manager, Company X Canada Innovation Centre Vancouver, explained,

....Why Vancouver, you ask? It's because it is in the same time zone as our headquarters, which is Seattle, with a driving time of about 2.5 hours [door to door]....regarding time zones, it absolutely does matter! If you want to have a meeting with someone on the East Coast after 2:00 p.m. our time, they would have already left the office by then. It is so easy to have an office in the same time zone like this. It's so easy for managers to drive from there [Seattle] to here

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<sup>7</sup>Global (or geographical) distributed development (GDD) is a mode of software develop that allows businesses to coordinate project teams located in different regions,, time zones, and countries as well as help to facilitate partner relationships and various outsourced relationships (Cammarano 2005). If GDD is practiced successfully, it allows teams to develop high-quality software and systems faster, and at a lower cost. This outcome can also lead to improved business agility and a great ability to negotiate the opportunities and challenges of globalization and competition (Cammarano 2005).

[Vancouver] and take care of important [matters]...the team meetings happen as well. [Our] employees drive there [Seattle, Washington] in the morning. They can come back [to Canada] in the evening for dinner. So the proximity also does matter.

*Facilities Manager  
Company X Canada Innovation Centre  
October 2008*

The above situation is proving to be perhaps a very clever “regional bridge” to globally distributed development. However, this approach is not without its challenges. Managers interviewed noted that some team leaders and managers based in Seattle did not fully understand what it took to properly manage new (and foreign) employees remotely. When the Company X Canada Innovation Centre first opened, some employees at the Vancouver facility received very little contact from or interaction with their immediate manager at company headquarters. As a result, Company X’s Canada Innovation Centre management now requires a lengthy meeting with any headquarter manager who wants to place a team member at Vancouver. Some of the key topics covered in the meeting include: managing a remote employee, making the newcomer feel welcome, and the benefits of face-to-face interaction.

Another obstacle is engaging with the US Department of Homeland Security (DHS) at the Canada-US border. For many Company X Canada Innovation Centre employees it is their first time entering the US, and it can be a difficult experience for a variety of reasons<sup>8</sup>. It was stressed by innovation centre managers that US DHS port of entry officers at the Pacific Highway Truck Crossing and Blaine Peace Arch ports of entry have held some of the innovation centre’s non-US employees for up to several hours for questioning before allowing them entry into the US for a routine meeting. These sorts of abrasive experiences with the US DHS personnel have encouraged some foreign employees at Vancouver who are eventually destined for work in the US to reconsider this as a possible career path. These particular employees are instead seriously considering residing in Vancouver, B.C. and working at the Company X Canada Innovation Centre over the long-term.

### **4.3 Leveraging the West Coast Lifestyle**

Company X found the Vancouver approach to living and lifestyle to be important elements when selecting the Company X Canada Innovation Centre site. In fact, a city region that demonstrated action when it came to progressive and environmentally sound transportation, an ethos and practice of strong environmentalism, and a culture that

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<sup>8</sup> For example, any employee that is a citizen of a country that is not “visa exempt” when it comes to entering the US must go to the US consulate in downtown Vancouver to secure a visa to enter the US, even if it is just for a meeting in Seattle. (This particular visa can take anywhere from one week to several months to receive.) Once this particular visa is attained, the employee then must go through one of the US land ports of entry between Vancouver and Seattle in order to actually “seek” entry into the US and engage with a DHS port of entry officer. This experience may be fraught with anxiety and trepidation for some of the innovation centre’s foreign employees.

encouraged a healthy work/life balance were all key features that Company X was looking for in an urban region that would draw and retain international talent.

Vancouver and the surrounding region of southwestern BC is considered one of the most naturally beautiful and environmentally progressive places within the world. Enshrouded by evergreen forests and skirted by the Pacific Ocean, Vancouver is the “Northern Star” of the binational Cascadia region.<sup>9</sup> Efforts have been made at the civic, regional, and provincial levels to ensure that open space and agricultural lands are preserved, especially over the past twenty years as the metropolitan area has experienced dramatic levels of growth. In fact, these planning decisions to retain open space and agricultural lands, invest in public transportation, and support regional alternative transportation paths for bicycles have all proven to be smart and fortuitous investments.<sup>10</sup> Today, other urban metropolitan areas around the world envy the Vancouver region’s public investments in transportation. “Skytrain”, greater Vancouver’s aboveground mass transportation system, was a particular selling point when Company X chose Vancouver for its newest innovation centre. The Canada Innovation Centre Managing Director elaborated,

Regarding infrastructure, the Skytrain is a fabulous feature of the Vancouver landscape. This is the infrastructure that is going to attract people and business to Vancouver. When I make presentations in Seattle, and I show them Vancouver’s Skytrain, people become very interested to learn more. If the Company X’s Canada Innovation Centre sit[s] on the Skytrain [line] this is a fabulous experience for my employees, which in turn makes their work experience more enjoyable..... Our employees are looking for this type of transportation experience when traveling to work.

*Managing Director  
Company X Canada Innovation Centre Vancouver,  
B.C  
August 2008*

Vancouver’s proactive investment in public goods is paralleled by its culture of environmental justice and action, which also proved an attractive feature to Company X. Like many west coast North American cities in the late 1960s and early 1970s, Vancouver had a strongly established countercultural presence, which helped to foster the birth of Greenpeace, established in 1971 (Weyler 2004).<sup>11</sup> This spirit of environmental awareness and action lives on within Vancouver and has recently found its way into the

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<sup>9</sup> This notion of Cascadia encompasses the panhandle of Alaska, western British Columbia, Washington state, Oregon, and extends south to Mendocino, California. The defining features of this ecological region include temperate rainforests and cascading waterfalls (McCloskey 1988 in Artibise 1996).

<sup>10</sup> These long-term investments in public infrastructure were once criticized for their heavy government involvement, especially when other regions were embracing public-private partnerships and neo-liberal civic entrepreneurialism in the late 1980s and all through the 1990s (for a critique of these practices, see Harvey 1989).

<sup>11</sup> Green peace focused its initial efforts on deterring the US Navy from underwater nuclear testing off the coast of Alaska, and has since developed into a worldwide organization now based in Amsterdam, The Netherlands.

built form. The Vancouver region is seeing a rise in architects who specialize in “green buildings”, and the City of Vancouver is facilitating even greater recognition of this proficiency by mandating that the 2010 Olympic Village, currently owned by the City of Vancouver, be built to LEED’s platinum standard<sup>12</sup>. All of these environmental attributes, both past and present, continue to bolster the Vancouver region’s global reputation as a “green” city- region.

These attributes combine to put the Vancouver region on the global map as a progressive and forward-thinking place to live and work. The Innovation Centre Managing Director considers these natural, cultural, and built features of Vancouver’s “greenness” a strong draw for the type of talent that Company X wants to attract. He explained,

.....Mostly young people want to move to Vancouver.....People who come to Vancouver know about Vancouver and LOVE Vancouver. It is a sports city. There are strong elements of “being green” here. It’s a tree-hugging city. These elements of “being green” are cropping up with real issues. We are leasing at the moment, but if I were to build, I would make it a sustainable building. Thus, we would need to have a green building. We’d use recycled materials. We already have low wattage bulbs, but we would also use recycled materials. This bumps up construction costs by 20 percent. But, it attracts a certain type of person! A person with a conscience, who will also be dedicated to the employer because they know the employer cares. People who give a damn. The money is not the main issue, it is part of the balance.

*Managing Director  
Company X Canada Innovation Centre  
Vancouver, B.C.  
August 2008*

From a perspective of work, the Company X Canada Innovation Centre is incredibly flexible and progressive with their technophiles. Managers at the Canada Innovation Centre noted that they did not want to instill a “Work till you drop culture,” which is perceived to be prevalent elsewhere in the US and Canada. Specifically, Company X Canada Innovation Centre encourages a flexible work culture. Employees keep core hours of 10 am to 3 pm, but otherwise oversee their own schedules. Company X Canada Innovation Centre managers noted that their employees are tied to tasks, not time clocks. All employees are responsible for their success and growth and to be able to manage these expectations. As well, the Company X Canada Innovation Centre promotes a strong work/life balance by encouraging employees to take time out and enjoy and become connected to the many different outdoor and community amenities that the Vancouver region has to offer. In fact, the Company X Canada Innovation Centre, as a whole, has already established fundraising efforts for the Vancouver Fruit Tree Project and

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<sup>12</sup> Leadership in Energy and Environmental Design (LEED) is a rating system developed by the US Green Building Council. Within the LEED system, projects are rated on many different aspects of green design, with a maximum available score of forty-six points. Projects can achieve a basic level of certification, or higher, which include Silver, Gold, or Platinum levels. (US Green Building Council 2009).

performed volunteer work for the Vancouver East Nature Park and its Surfing Grannies program. It is the combination of this strong work/life balance, and the expectation of a firm that an employee “self manage” this balance, which Richardson (2006b) refers to as “Westcoastness”, since this approach to work and life is seen as a growing norm for firms located on the west coast of North America.

#### **4.4 The Multiculturalism Advantage**

In addition to its open labour mobility policies for the highly skilled, Canada has relatively open immigration policies for foreigners in general. In fact, compared to Seattle, only 241 kilometers to the south, immigration and foreign investment have been much more important to Vancouver’s recent economic development strategy. At a national level, Canada has used its open immigration policy to its advantage by aggressively advertising Canada as a place to live in Hong Kong and East Asia as the 1997 China takeover deadline loomed (Ley 1996; Mitchell 1996; and Waters 2000).

By 2007, the Vancouver region, with a population of just over 2 million people, is considered one of the most multicultural urban regions in the world, with 38 percent of the metropolitan regional population being foreign-born. As a whole, two-thirds of the population is either foreign born or second-generation immigrants. According to Canada’s last census conducted in 2006, over forty percent of Vancouver’s Census Metropolitan area consisted of “non-Caucasian people”. The largest proportion of these non-Caucasians hails from Asia – particularly China, India, and the Philippines (Chui et al. 2008).

Although the Vancouver region continues to face challenges as it works to adapt and incorporate these new comers into meaningful work and life experiences (Geddes 2002; Ley 1996), the strong “multiculturalism” found in the Vancouver region was a pivotal factor for Company X executives when selecting Vancouver as the site for their new innovation centre. The spirit and growth of multiculturalism over the past thirty years has driven the development of “cultural pockets” of various ethnicities and backgrounds that cover entire neighbourhoods and even cities. For example, parts of the city of Surrey resemble areas of Northern India in both built structures and peoples (Walton-Roberts 2003) (Burnley and Hiebert 2001), while other areas resemble Hong Kong (Burnley and Hiebert 2001) (Hutton 1998). The Managing Director elaborated,

I think the diversity piece that the Vancouver region offers is just huge! Korean employees who come here can assimilate due to the Korean foods. Although every city has this, the pockets that this occurs in are very interesting regarding to Vancouver. [For example,] Surrey is very Indian/Asian. There are pockets of Russians on the other side of Knight Street in Vancouver. Within the city region of Vancouver, there are many pockets of different cultural backgrounds. Thus, it provides an interesting feature or lure effect for our employees, who come from around the world. As well, we are moving towards a “Global Perspective” in general. The social structure of food, entertainment, and church and things like this is very easy to make people comfortable quickly, here. Toronto, I know the

Indian community there (it's been a long time since I lived there), it is not in pockets there. It is everywhere there. [In Toronto] it is very cosmopolitan. It is not centralized. So, they have temples, and churches there, like here, but the layout is a bit different than here.

*Managing Director  
Company X Canada Innovation Centre  
Vancouver, B.C.  
September 2008*

The notion of “cultural pockets” was seen as a challenge to some in the 1990s<sup>13</sup>. Surprisingly the geographical concentrations of certain ethnic groups and the subsequent visual and “experiential” resemblance of traditional cultures of origin found in the Vancouver region were deemed a strong positive feature for Company X executives when scouting for a globally open city. In some ways, the cultural autonomy of these areas of the city has undermined the sense of a coherent Vancouver “image.” However, for Company X representatives this lack of singular identity is an asset. The varied cultural milieu ensures that the “comfort of home” is available to newly-arrived global talent, while also providing for other employees curious to learn about other cultures and world experiences.

These notions of “openness” point to an immigration policy approach, which allows the continual movement of talent into Canada and the Vancouver region in particular. The subsequent cultural openness builds on Canada’s long-standing multiculturalism policy, established in the early 1970s (See Ley 1996 and Kymlicka 1998, 1995 for an in depth discussion on this topic area). Interestingly, Vancouver’s local approach to multiculturalism enabled these “ethnic pockets” to flourish, while in Toronto, cultural shops and features were more “mixed in” with the existing urban landscape. This unique combination of openness policies and cultural vibrancy has truly benefited Company X in both its recruitment and development activity.

## **5. Discussion**

The findings presented above illustrate the particular qualities of the Vancouver region, that led to its selection as the host for Company X’s newest innovation centre. First and foremost, it was the region’s openness to potential talent in the form of progressive immigration and labour mobility policies and programs that Company X found so attractive. Specifically, due to the range of immigration and foreign labour options available in both British Columbia and Canada in general. (See Appendix I for a listing of possible Canadian and Provincial immigration programs that Company X could select from.) By being located in a region that was open and facilitative to the immigration of the highly skilled, Company X could confidently offer positions of employment to job candidates from abroad without the anxiety and worry that tended to plague Company X’s human resource department when the company made similar offers to foreigners for work in the US. Perhaps the most important insight here is that a range of predictable options are provided to the firm in need of global talent. Additionally, the Government of

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<sup>13</sup> See Hiebert and Ley (2003) and Burnley and Ley (2001) for an in-depth discussion on this topic area.

Canada has a process in place for the continual reevaluation of visa standards, so that the permitted job and work status types match the needs of industry and the economy in general. (See Richardson 2009a for a discussion of this type of iterative process as it relates to Chapter 16 of NAFTA.) Overall, Canada demonstrated that not only is it “open” to talent, it also has established a facilitative climate which ensures that it continues to keep barriers to entry as low as possible for foreigners with high human capital. This finding supports the existing literature dedicated to diversity and regional innovation, or low barriers to entry for talent. See Jacobs (1961); Zachary (2000); Saxenian (2000, 2002, 2006); Florida and Gates (2001); Florida (2002a; 2002b; 2005); and Wadhwa et al. (2007). However, our findings provide new insights to this existing literature by the fact that companies are as likely to be attracted to a region that has the potential ability to draw global labour.

The importance of proximity, in terms of a shared time zone and geographical advantage was an interesting finding, and runs counter to the extensive literature on time/space compression, as has been most eloquently argued over the past three decades by Janelle (1968) and Harvey (1990). Most importantly, proximity advantage reminds the reader that the realities of “face-to-face” interaction have not been completely outgamed by modern technologies. Thus, by establishing an innovation centre within the same time zone as Company X’s headquarters in the Pacific Northwest, international team members are able to collaborate in real time with their counterparts at headquarters. Territorial proximity still matters as well. Company X understands the necessary reality of being able to access their key global employees in person at least every month. If it is necessary managers can meet face-to-face with employees from the Canadian Innovation Centre approximately 2.5 hours away to solve problems.

The perceived Vancouver lifestyle was also a big draw for Company X executives when looking for a “place” that would be able to attract and retain highly sought after global talent. Specifically, the Vancouver region’s green policies and strong work/life balance were pivotal factors to this lifestyle attribute. Although Gottlieb (1995) and Glaeser, Kolko and Saiz (2001) found a range of lifestyle amenities and quality of life within a region to be strong draws for talent, our research findings take these assertions a step further. This work/life balance encourages employees to manage their own time, pace themselves, and enjoy the many natural amenities found in Vancouver in addition to encouraging participation in community causes. This approach to work is similar to what Richardson (2006b) found in her study of the hiring of the internationally highly skilled into Vancouver’s biotechnology sector. Interestingly, these biotechnology firms had a preference to hire scientists and executives who had lived and work successfully for three years or more on the west coast of North America. This preference of regional work familiarity and work/life cultural understanding was known as “Westcoastness” (Richardson 2006b).

Finally, Canada’s open immigration and labour mobility policies have helped to also give rise to a strong culture of multiculturalism in the Vancouver region over the past twenty years. As expressed in the findings of the paper, the experience and opportunity for multiculturalism to exist in “cultural pockets” was seen as real strength for Company X

when seeking out a location where their global workforce could find a community that they would feel “at home” in but also engage in interesting experiences with other cultures. These findings confirm once again the role of diversity when it comes to the character of a city, its ability to attract and retain talent, and supports the findings of Jacobs (1961) and Florida (2002a; 2005).

Based on the above, the Vancouver region has demonstrated that it has a strong jurisdictional advantage (Feldman and Martin 2005) for a globally-competitive high technology firm in its ability to draw and retain international talent based on the combination of the following factors:

1. Low barriers to entry for potential foreign talent;
2. Close proximity to headquarters (2.5 drive) and being situated in the same time zone as Company X's headquarters
3. High quality of life and work/life balance; and
4. Evidence of strong multiculturalism.

The unique combination of these four factors help to establish the Vancouver region as an ideal location to draw and retain potential global talent for Company X, which in turn can give the firm a competitive advantage when it comes to seeking and retaining potential talent. It should be clear, though, that the above jurisdictional advantage only allows for the “potential” to draw global talent to the region for a high technology firm. Hence, these features found with the Vancouver region contribute to the development of a new location theory called “Potencia”. However, before a firm seeks this competitive advantage of “Potencia”, it must begin to actualize this possible opportunity through the establishment of built facilities and a proper management staff, which include seasoned directors, human resource managers and immigration attorneys who are familiar with international corporate operations, and know how to allow this talent to flow smoothly into the Potencia region of choice. Thus, this new theory will most likely prove to be of use to large more well-established high technology firms in need of a predictable and steady stream of international talent, and are headquartered in areas of the world that are not facilitating the entry of the foreign highly skilled, such as the US for example.

## **6. Conclusion**

We began this paper by arguing that location theory in today's global highly skilled economy needs to consider not just the innate or *in situ* characteristics of a location but its longer-run locational potential. We argued that firms have come to a point where they may prefer locations based not simply on what is there, but what might be attracted there - in this case a potential pool of highly skilled international labour not yet realized.

We examined this hypothesis through a detailed case study of the Company X Canada Innovation Centre (newly located in Vancouver, British Columbia) comprised of ten on-site visits and 12 interviews focused on the location search and development of the facility and location.

Our research informs four key findings. First, we find that the region's openness to potential global talent was the primary factor why Company X chose Vancouver when selecting a location for an innovation centre that could support its most important international high technology professionals.

Second, the Vancouver area's unique geographical location, being a 2.5 hour drive north of Company X headquarters in Seattle, Washington as well as being in the same time zone as Company X's headquarters, gave the Vancouver region tremendous location advantages over other possible locations in Canada.

Third, in an effort to entice and retain this global talent, Company X chose the Vancouver region due to its high quality of life. This includes its modern mass transportation and "Green" culture, in addition to a strong dedication to work/life balance, or what Richardson (2006b) calls "Westcoastness."

Fourth, evidence of progressive multiculturalism was also a key feature to Company X when seeking a region that would not only provide the "comforts of home" for its new global workforce, but also provided interesting "other worldly" experiences for their other young and curious international professionals.

We hope our findings will stimulate further empirical research on this important subject of locational potential, the dynamic way in which firms are drawn to not just existing, in-place locational characteristics, but to the longer run potential to attract people and other resources to a location and shape its development.

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**Table 1 Canadian Temporary and Permanent Entry Statuses**

<b>Types of Entry Status</b>	<b>Description</b>	<b>Labour Certification</b>	<b>Length/Renewable</b>	<b>Strengths/Weaknesses</b>
<b>TN</b>	Applies to US and Mexican nationals who meet the education and/or work requirements for 65 professional job classifications listed under NAFTA. Can file at port-of-entry with all needed documentation. Intended to be self explanatory, and the applicant should usually not need legal help.	No labour certification is required.	TN statuses are only issued for one year. CIC perspective is that the TN may be renewed indefinitely.	S: Fast (ideally) and inexpensive (\$150.00 Canadian processing fee). As of 2008, the TN is valid for up to three years. W: Port-of-entry officers are sometimes inconsistent with adjudications. Very little recourse for applicant if application is denied. If application denied, could lead to expedited removal proceedings and possibly bar NAFTA applicant from US for 5 years. Applicants need the help of lawyers.
<b>General Professional work status</b>	Applies to professional job categories. Similar to the US H-1B, but must get HRSDC approval before making offer to hire foreigner.	Must get HRSDC approval. Employer must demonstrate a clear and deliberate effect to hire a Canadian for position but with no success. Must show job advertisements, etc. to HRSDC.	Work status is usually good for up to three years with the possibility of renewal. May also apply for permanent residency status after one year in the job.	S: Is available for most professional job classifications. W: Must get HRSDC approval, which may take beyond six months. Also additional time and money involved to demonstrate that no Canadian met the qualifications

<p><b>Provincial Nominee Program</b></p>	<p>CIC program run by various provinces (such as B.C.) to “fast-track” various professionally skilled foreigners that the province has a demonstrated shortage in. (IT professionals, health care workers and international students doing graduate work). Also open to foreign investors and entrepreneurs.</p>	<p>Employer sponsors foreign applicant. No HRSDC approval. However, job classifications and very elite and narrow. Also the PNP personnel serve as a screening board for “appropriate” applicants and their job types.</p>	<p>Leads to permanent residency status ideally within 5-12 months of submitting a completed application.</p>	<p>S: Very effective and efficient program for all professional types that fall within the program’s parameters.</p> <p>W: Application process is almost too soon. Firms must spend vast amounts of money (legal fees) (\$8,000) and human resource personnel’s time to help foreign employee process application, before employee decides that he/she really wants to live in Canada. This usually takes about two years (learning to like Canada).</p>
<p><b>Information Technology Workers Program (Pilot Program)</b></p>	<p>This is a pilot program to allow for seven different types of IT specific jobs that the government of Canada (Industry Canada, HRSDC, and the Software Human Resource Council) has demonstrated a clear lack of Canadian workers who are able to fill these jobs.</p>	<p>Program has a national confirmation letter from Canadian government attesting that not enough Canadian workers are able to fill these job types. Thus, HRSDC exempt.</p>	<p>Work status is usually good for up to three years with the possibility of renewal. May also apply for permanent residency status after one year in the job.</p>	<p>S: Very fast and efficient for firms needing to hire foreign IT professionals quickly.</p> <p>W: It is a pilot program. Therefore, subject to political whims of the government. (Some components of the program were cut after the new immigration laws were passed in 2001.) Also, does not apply to biotechnology field, which is in serious need of foreign personnel.</p>

Source: Richardson 2006a

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## Working Paper Series

This working paper is part of the *Ontario in the Creative Age* series, a project we are conducting for the Ontario Government. The project was first announced in the 2008 Ontario Budget Speech, and its purpose is to understand the changing composition of Ontario's economy and workforce, examine historical changes and projected future trends affecting Ontario, and provide recommendations to the Province for ensuring that Ontario's economy and people remain globally competitive and prosperous.

The purpose of the working papers in this series is to engage selected issues related to our report: *Ontario in the Creative Age*. The series will involve a number of releases over the course of the coming months. Each paper has been reviewed for content and edited for clarity by Martin Prosperity Institute staff and affiliates. As working papers, they have not undergone rigorous academic peer review.

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