Can Florida's Place Pyramid be applied in organizational settings? An exploratory study
of knowledge worker environments.

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Abstract

Can Florida's Place Pyramid be applied in organizational settings? An exploratory study of knowledge worker environments.

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The need for a country to innovate has always been important to ensure a growing economy, but with the continued progress towards globalization there has been increased emphasis on the development of a knowledge economy driven by innovation. Two recent documents, *Mobilizing Science and Technology to Canada's Advantage* (Government of Canada, 2007)) and *The Canadian Blueprint: Beyond Moose and Mountains* (BioTech Canada, 2009), are focused entirely on Canada advancing its global advantage by promoting innovation through a knowledge economy.

On Prince Edward Island, as in the rest of Canada, government policies have focused heavily on growing the knowledge economy through innovative products and services. In recent years there have been significant investments in the information technology and biotechnology sectors. Much of the research around innovation has been at a macro level, specifically relating to the geographic region where the innovation has occurred. There are numerous studies examining the nature of regions that have higher levels of innovation focusing on the clustering effect that is occurring. Richard Florida, an economic geographer, has developed a framework to help us understand the elements that relate to clustering and the attraction of people to a particular area. Given our knowledge about regions, it leads us to question how innovation occurs in a region, and what is happening in workplaces that attract innovative workers? Is there some magic formula for creating the perfect environment that attracts and retains those highly qualified people who have been identified as critical to the success of an innovative economy?

In this study, I explore this question using Florida's "*Place Pyramid*". Although the Place Pyramid was developed to assist in our understanding of the factors that influence where people choose to live, I apply it to organizational settings to examine if the same factors can be found at the micro-level. My findings from this study suggest that it may be possible to build place from the "inside" out. In other words, organizations can develop innovative workplaces that over time form the foundation of clusters. The findings from this exploratory study provide preliminary evidence that place can start at a micro-level and serves as a foundation to examine whether it can later impact the macro level. This finding may be counter to Florida's premise that place is everything and suggests that further examination of this phenomena is warranted.

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From the day of writing my MBA application to the last moments of trying to complete this paper, I have had huge doubts in my ability to successfully complete the program. During those moments I have turned to the people who have always been my guides; to my father who raised me to be strong and to my mother who gives me courage.

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CHAPTER 1: INTRODUCTION

The Province of Prince Edward Island has undergone many economic ups and downs in its long history, but the traditional industries of farming, fishing and tourism have remained at the heart of the economy. As international markets develop, competition in these areas has grown globally. Meanwhile fishing stocks have declined, devastating diseases and infestation have increased stresses on farming, and tourism has more global competition as travelers can easily traverse the globe in search of an ideal vacation destination. These realities suggest that a continued reliance solely on these traditional industries is not sustainable for the Province of Prince Edward Island (PEI). The government needs to find new ways of adding value in these traditional sectors while diversifying into areas that build on a knowledge economy.

This need to expand and diversify an economy is not unique to PEI. In fact, Canada as a whole is seen as falling behind its G7 counterparts in the knowledge economy workplace (Government of Canada, 2007). While Canada is recognized as a strong developer of ideas and innovative technologies, as a country we have a poor track record of carrying them through to commercialization. So how does Prince Edward Island thrive and prosper in the face of these economic challenges combined with the demographic realities of an aging work force, declining birthrates, and continued out-migration of young talent? To address these challenges, the governments of the past have placed an emphasis on economic diversification and have focused on the development of new sectors in the knowledge economy to bring in new companies, educated immigrants, and

retain our young people by offering greater potential in higher education and employment opportunities.

Much of the existing research would suggest that a city or region with a thriving, innovative culture is required to attract other innovative people (Florida, 2009). But is it necessary to build the community first? Is it possible to build a "mega region" from the inside out? The purpose of this research is to explore "place" at an organizational level, rather than a regional level. Florida and others argue that place attracts talented knowledge workers to regions, and that some regions offer environments that make innovation possible. Although PEI does not necessarily offer what these mega regions do, I am interested in examining whether organizations can create these environments that attract and retain talent. In this exploratory qualitative study, interviews with leaders in innovative organizations on PEI are conducted to understand perceptions of place at an organizational level and the associated human resource practices leading to innovative workplaces.

Prince Edward Island and Innovation

In 2008, the Prince Edward Island (PEI) provincial government published its "Island Prosperity Strategy" (Mayne, 2008). This document is the blueprint for diversifying PEI's economy to one with a knowledge-based workforce. Government identified four strategic sectors for development: aerospace, information technology, biotechnology and renewable energy. Programs addressing infrastructure, research and development (R&D), and the growth and development of human capital are all part of this plan. As in other regions in Canada, the PEI government leaders forged a plan to

move the economy forward through support for the development of innovative products and processes.

Florida's research into "*place"* and how people cluster in certain areas has received great attention from developers, policy makers and organizational leaders looking to identify what attracts or repels individuals to an area. However, to my knowledge there has been no attempt to see if it applies at a micro-level, such as an organizational setting. My research investigates the connection between innovation and the organization. I am interested in understanding the link between innovative workplaces and human resource practices as perceived by the employees working in such environments. Govindarajan, a professor at Dartmouth College's Tuck School of Business, states, "There are a lot of different things that fall under the rubric of innovation. Innovation does not have to have anything to do with technology (McGregor, 2006, p. 1)". This research looks at what other things may be occurring within innovative organizations, and specifically within the work environment.

Innovation

What do we mean by innovation? It is defined in its simplest terms as presenting something new, novel or unique (Wikipedia). Both of the sectors this research investigates, biotechnology and information technology, are seen as part of PEI's knowledge economy and are considered innovative by the nature of what they provide as an end product or service.

Development of these knowledge-based sectors has been part of the PEI governmental policy for at least fifteen years. In the late nineties and early 2000s, the agenda was focused on information technology. In the mid-2000s, the focus further

diversified to include the biotechnology industry. In both instances governments have concentrated efforts on developing infrastructure, providing funding, supporting training programs, and implementing policies to encourage these industries to locate their businesses on PEI. As a result of these efforts, numerous companies have emerged and new ones have been attracted to PEI. The question that I consider in this research is what are some companies doing right in the development of their workplace and Human Resource (HR) practices to attract and retain knowledge workers?

While PEI, like the rest of the global economy, was hit with the crash of the IT sector in the mid-2000s, it has still been successful in building a small but growing interactive gaming industry that is primarily the legacy of those initiatives by government to grow the IT sector in PEI.

Currently governments at both the regional and national levels are focused on growing the biotechnology sector. In 2006 the construction of the National Research Council Institute for Nutrisciences and Health (NRC-INH) was completed along with major expansions to the Food Technology Centre and the Atlantic Veterinary College. Further infrastructure support to develop this sector is underway with both levels of government in the planning stages of a BioCommons that will act as a scale-up facility for emerging biotechnology companies.

With all this focus on the development of specific knowledge economy sectors it is important that policy makers consider all the factors involved, including the attraction, development and retention of qualified people. While government and education institutions have placed an emphasis on developing the programs to build the knowledge

economy, there is also a need to ensure individuals are finding satisfaction with where and how they work.

Innovative Workplaces

In an increasingly global workplace where it is possible to transfer knowledge, technology, resources and people in little or no time, the ability to innovate has become ever more important. Industry Canada's document *Mobilizing Science and Technology to Canada's Advantage*, states, "Our aging population, combined with opportunities for Canadians to work anywhere in the world, challenges us to put in place the right conditions to attract, retain and develop the talent and ingenuity Canada needs" (Government of Canada, 2007, p. 10).

In his book *Flight of the Creative Class*, Florida (2004) researched the global competition for talent. He examined how the development and movement of highly creative individuals was threatening the status of leading innovative regions throughout the United States. Because people could live anywhere and still exchange ideas and technologies easily, the need to be located in a major metropolitan centre had disappeared. Suddenly the competition for talent had gone global. What has arisen out of this ease of movement are clusters of creativity; these include places like Silicon Valley for IT, Singapore for biotechnology and other communities that are focused on specific innovative and creative activities.

The Prince Edward Island government has been working to build a biotechnology cluster through the attraction of global biotechnology companies. It is also helping small start-up companies to bring their products to full commercialization. Dr. Stephen Casper, a researcher with the Fulbright Institute, studies the development of clusters. In his

examination of PEI's biotechnology cluster he found a surprising number of highly qualified people who are choosing to live and work in PEI (Casper, 2009). This clustering defies much of the research that says place, and what it offers, is the primary driver behind clustering.

Respondents to Casper's (2009) survey indicated the value proposition for a company was the ability to be at the top with respect to compensation within the local economy as well as finding hard working and reasonably well-trained employees. Among the responses from employees to the question of "why PEI", the overwhelming answer was challenging work (Casper, 2009).

This ability to choose where one lives is the focus of Florida's 2008 book *Whose Your City*. His research draws on the work of Maslow's Hierarchy of Needs (Maslow, 1943) and looks at it on a macro level by applying it to the selection of where you should live. Florida has developed the "Place Pyramid" with its five categories for choosing where you live, namely; basic services, opportunity, leadership, values, and aesthetics. It is this Place Pyramid that will be applied on a micro-level to local organizations to determine if these same principals are at play when choosing where to work.

Clearly governments and policy makers have acknowledged the importance of innovation in gaining and retaining their competitive advantage. The Canadian government addressed this in a recent study entitled *Mobilizing Science and Technology* (Government of Canada, 2007). A quote from the document emphasizes the need for Canada to innovate: "In order for Canadians to continue to enjoy a high quality of life and standard of living we must improve our productivity and competitiveness through innovation" (Government of Canada, 2007, p. 8). Later in this same report it states,

"Talented, skilled, creative people are the most critical element of a successful national economy over the long term" (Government of Canada, 2007, p. 10). Florida and others contend that the development of people is what will bring prosperity to a region.

Knowledge work in PEI

Prince Edward Island has a very clear understanding of the need to diversify its economic focus to a more sustainable, less resource dependent economy. Government policy has for years focused on affecting this change. According to Ahn (2008), policy agendas should focus on improving the conditions that enhance start-up formation, alliances and skilled employment (Ahn, 2008). A key component to improving those conditions is the need to attract and retain knowledge workers.

Prince Edward Island has historically struggled with "out-migration" of its young workforce. There are various reasons for this, including limited education options, a lack of work prospects and the desire to experience life in the big city. Further, it has not historically been viewed as a prime location for innovation and advancement of knowledge workers.

In a survey of 600 global biotechnology firms, the number one factor for locating was proximity to world class research science centres (Ahn, 2008). Number two was access to highly skilled staff and a deep talent pool. These findings would suggest and support the idea that the environment of a company is what attracts other skilled people even more so than opportunity or aesthetics.

In looking at the innovative workplaces in PEI there seemed little to support this idea of a region needing to be the focus of attraction for innovative companies and workers. What is happening within these companies that is both advancing innovation

and attracting highly qualified people? This research looks at those factors and tries to understand the link between innovation and the workplace where it occurs.

Florida's Place Pyramid

It is Florida's contention that place is everything (Florida, 2009). He believes that globally there are very few regions where innovation and economic activity really occur.

> "By any measure of past, present, or future economic growth – population, economic activity, innovation, location of scientific talent – these mega-regions tower above their neighbors" (Florida, 2009, p. 302).

He further contends that there are "…fewer than two dozen places worldwide that generate significant innovation and those regions have ecosystems of leading-edge universities, high-powered companies, flexible labour markets, and venture capital that are attuned to the demands of commercial innovation (Florida, 2009, p. 27)."

By these measurements, PEI is not a logical place for clustering of highly innovative people. So what are the driving forces behind PEI's growing knowledge worker environments? I thought it might be possible to find some of the answers to these questions by applying the Place Pyramid at an organizational level. This research examines these innovative work environments by asking questions that connect to the elements of the Place Pyramid.

<div align="center">Research Overview</div>

There is extensive research that looks at innovative organizations and tries to identify what they are doing that does or does not work. From a search of the literature I have identified a number of factors that impact the ability of an organization to successfully innovate. These are often focused on the human resource policies of a

company or the need for business to be highly productive. What was missing from the research was a comprehensive model for examining innovative human resource policies / practices. This research takes a known research model, the Place Pyramid and applies it to knowledge-based workplaces located in PEI. The purpose of using this model was to identify if the same aspects for innovative communities or regions could be applied to an organization.

As PEI focuses on developing and growing its knowledge-based economy it is important that decision-makers fully understand what takes place in these innovative environments. If, as Casper (2009) has indicated, PEI is actually obtaining some success in attracting knowledge-based workers in the biotechnology sector, what is driving this attraction? Because Florida's Place Pyramid is all about what should be considered when choosing a place to live, it seems an ideal tool to examine what is attracting people to PEI's knowledge-based work places.

This research aims to identify commonalities of perceptions among the workers in these innovative work environments. Is there really an organic clustering of highly skilled individuals and are companies knowingly doing something to attract them? The questionnaires used for interviewing consider human resource practices and try to determine if it is those policies that are creating / promoting innovation and helping to grow these knowledge-based work environments.

Organization of this Thesis

This thesis is organized in chapters. The second chapter covers a review of the current literature on innovation and how it occurs within organizations. In Chapter 3, the methodology for the research using Florida's Place Pyramid as a framework for exploring

innovative work places is laid out. The fourth chapter describes the findings from the

research. Chapter 5 discusses the insights from the research as well as potential future

research.

CHAPTER 2: LITERATURE REVIEW

What this research seeks to identify is the innovative practices around human resources that occur in a knowledge-based work environment. This chapter includes a review of material on highly innovative organizations with well established human resource practices. This review also includes material that researches the connection between innovation and knowledge-based work environment. From this material, the gaps in the research are identified and the Place Pyramid is established in the context of PEI's innovative organizations. In particular, I focus on how the Place Pyramid applies to PEI and to emerging sectors identified in the *Island Prosperity Strategy* (Mayne, 2008).

Innovative Workplaces

Research into the idea of innovative practices in organizations has been extensive as is evident with *Newsweek*'s top 100 innovative companies each year. Dr. Teresa Amabile is one of the leading researchers on the innovative workplace. She has written extensively about the environments that must exist in order to encourage creativity and innovation in a work place. Her research originally focused on individual creativity but then expanded to examine individual productivity, team creativity and organizational innovation (School). Her research focuses on three components of creativity that she believes are inherent in creative individuals: expertise, creative-thinking and motivation (Amabile, 1998). The emphasis of her research is on the needs of the individual to be creative in their workplace. It is her contention that managers either make or break creativity in individuals by their managerial practices. "Creativity thrives when managers let people decide how to climb a mountain; they needn't, however, let employees choose which one" (Amabile, 1998, p. 81).

Amabile's (1998) research advises it is still important to implement structures around creativity, and she suggests "mandating information sharing and collaboration" (Amabile, 1998, p. 81) as a means of encouraging creativity. While using terms like mandating sounds counterproductive to encouraging a group of people to work together, what she is talking about is creating an environment where information and communication are open and people at all levels are accessible.

Further reading profiled how companies support and reward individual achievement. In *Newsweek*'s (2006) article on the top 100 most innovative companies they outlined a number of approaches taken by highly successful organizations. For example, Nokia Corp. gives out formal rewards to its top innovators. Those engineers within the company with ten or more patents are inducted into Nokia's "Club 10" in a formal awards ceremony. 3M awards "Genesis Grants" to scientists who want to work on projects outside the scope of their daily responsibilities. It allows them to submit proposals for funding of $50,000 to $100,000 toward the costs of staff or equipment necessary to conduct the research.

Practices like Proctor and Gamble's (P & G) outside networks of innovation, that link scientists at university, government and private labs, and further engages retired scientists and engineers with businesses, are key to its continued success. P&G also has essentially an Innovator-in-chief, a person who is able to control the innovative environment within the organization (www.businessweek.com, 2006). This emphasizes how important these innovations are to the success of the company.

Iyer and Davenport (2008) in their article "Reverse Engineering Google's Innovation Machine", state that it is impossible to establish whether Google's great

human capital management practices have led to the success of Google or if its success enables these practices to be put in place (Iyer, 2008). Google is often touted for its tremendous human capital and the manner in which they are treated. It receives hundreds of applications for every job opening it posts and hundreds more even when there are no job openings.

Soren, Brinckmann & Talke (2008) validated a measurement approach to their proposed functional management competence construct. They focus on the impact of cross-functional teams and cross-functional co-operation in innovation projects. They stress the importance of having the right people in the right place and allowing them the opportunity to advance with their ideas (Salomo, 2008).

In my research, I want to gather evidence to support these approaches in developing human resource practices in innovative organizations. A key piece of information that continues to arise from my readings is that highly skilled individuals seem to attract other highly skilled workers, or clusters develop based on who you are able to attract to that cluster. By formulating a strong research based review of innovative practices the emphasis on human resources will gain greater focus.

According to Gumusluoglu and Ilsev (2007) in their article on transformational leadership, the importance of leadership and how that is communicated to employees is key to the success of a company. Leadership affects all aspects of the work environment. So if you have the right leadership you can motivate people to be creative (Gumusluoglu, 2007). By engaging strong innovation strategies that focus on people and their development these companies will realize the success they seek in the Marketplace.

Understanding Place

As companies compete globally for innovative talent, the emphasis on strategic human resource planning is becoming ever greater (Government of Canada, 2007). No longer is it enough to provide good financial compensation, an employer now needs to provide much more. Workers can now participate in the workforce in ways that were not even thought of twenty years ago. Individuals with a sought after skill set can choose to engage in their craft anywhere on the planet.

The fact that highly skilled workers are attracted to one another is a critical factor for a small sector like PEI's as we try to grow our knowledge-based economy. Google's focus on opportunity is built into the job description of its employees, particularly its design engineers and technical staff. Their job descriptions have an 80/20 rule which requires an employee to spend 80% of his or her time on designated responsibilities and 20% on technical projects of his or her own choosing (Iyer, 2008). The management of these "other" projects has meant an individual has been assigned as the "Director of Other" (Iyer, 2008, p. 8). Ultimately it is establishment of an environment that allows for innovation.

Examining Google from a developmental aspect is challenging as the company is already a huge organization with well established HR practices and it grew out of one of Florida's identified clusters. The structure of the company's headquarters leaves little doubt that providing for their employees is key to achieving a harmonious environment. There are numerous cafeterias throughout, all of which are free. They provide on-site services such as doctors, dentists, gyms, dry-cleaning, etc. The logic being that the time it

takes an employee to leave the building and go to one of these services is better spent in Google's facility.

Leadership and values also appear to be critical to Google's success with corporate management giving a great deal of time and resources to pet projects of their own and their employees. Finally, the work environment is geared toward the needs of the company's staff, with a relaxed atmosphere and structure around work hours and protocols such as attire. The emphasis is on an environment that works for the employees and aids them in their own individual creativity.

But has this growth through what appears to be a defined model been deliberate or organic, and is it possible that any company wishing to be innovative could adopt these strategies and realize success? That is part of the question to be responded to with this research.

Place Pyramid and Organizations

The Place Pyramid is an adaptation of Maslow's Hierarchy of Needs. In this work, Maslow developed a pyramid of needs beginning with psychological and followed by safety, then love / belonging, esteem, and finally self-actualization at the top of the pyramid. Maslow found that after establishing a strong psychological foundation, individuals could work their way to the top of the pyramid. Individuals could only move to the next (higher) level once each need was met on the current level, enabling them to progress.

From this foundation, Florida developed his place and happiness survey by adapting the pyramid to consider five elements: opportunity, basic services, leadership, values, and aesthetics. In Florida's model, the elements can be met in any order and

without one building on the next - except opportunity, which he believes must first be satisfied. What Florida has done is use people's responses to his place and happiness survey to create a model that can be used to choose where to live.

Florida's Place Pyramid is focused on clustering and how this occurs. What type of personalities cluster, where and why are they gathering in a certain region? It is this type of information that becomes important to a place like Prince Edward Island as it targets the development of specific types of clusters. Understanding how that process works from a people perspective is important to the successful development of a cluster.

The value in being able to identify patterns or trends within innovative organizations is the potential for other organizations to adopt those practices. The knowledge and awareness of what works in innovative organizations would further assist government in its efforts to grow the economy. As government works on prospecting companies in to the province, they must be able to identify what it is that would entice a company to set up operations in PEI. In other words, why would a company choose this "place", what does PEI offer, and could that question be answered by identifying how innovation was occurring within local companies.

CHAPTER 3: METHODOLOGY

In reviewing the literature there was much to support the idea that people are key to the success or failure of innovative ideas. Wei and Lau stated in their 2010 article that, "A central focus of these human resource management systems is on capitalizing a firm's human resources to achieve firm performance (Wei, 2010)." The management of these people seemed a crucial element in exploiting ideas to their fullest potential. The research from various readings touched on pieces of what was important to promote innovation, but it was the Place Pyramid that seemed to present the most thorough data collection. While the current literature touches on a number of aspects of Florida's Pyramid, there was nothing that captured them all in one review. The purpose of applying this framework to an organizational setting is to see if development of innovative workplaces could and did follow the same process as the development of innovative regions. With so much emphasis on clustering, I wanted to examine at a micro-level how clustering might be occurring within organizations.

Research Design

According to the literature, creating a work environment that appeals to the needs of the individual is critical for the success of both the individual employee and the organization. From the strategic human resource management literature, we know that the workforce is changing. There are increasing numbers of baby boomers retiring or shifting to a part-time status (Millmore, 2007). There is a smaller pool of labour to draw from and they generally have extensive educations that demand generous compensation when they enter the workforce. So how best does an organization balance the needs of its

pending retirees and the younger generation coming into the workforce? How does a company retain the intellectual property that threatens to disappear with the baby boom generation? How does it attract the best and the brightest so it can sustain a competitive edge? This research attempts to explore the practices of innovative organizations operating in two key sectors of the PEI economy, IT and biotechnology. It is my belief that Florida's Place Pyramid can be applied at a micro-level in an organization to reveal the practices that support innovation. A qualitative research approach is undertaken in this project in order to gain a rich, deep description of the phenomena being studied.

Design Methodology

This method for conducting research through the capturing of data from individuals is overseen by the University Ethics Board. In order to proceed with the research I was required to present my proposed research through a defined ethics board approval process. My proposal included a sample of the consent form I would issue to each interviewee as well as the request to the employer to conduct the interview. I also included a sample of my proposed questions. A sample of the interview questions and approved consent form is included in appendix A and B.

My method for obtaining data for this qualitative research is by conducting interviews using MacCracken's Long Interview process (MacCracken, 1988). Through the process of reviewing research literature on the topic of innovation I was able to identify common elements within innovative organizations. Those elements fit the categories of the Place Pyramid. By taking each element of the Place Pyramid and adapting it to the micro-level of an organization, questions were formulated for interviewing. These interviews followed a similar process to that of Florida in that I was

looking for commonalities in responses that indicated what was occurring in these work environments.

Research Framework

Research Purpose and Questions

There were really two questions I wanted to address from this research: (1) how is innovation occurring in the workplace, and (2) are there clusters developing in innovative workplaces. The value in answering these questions is the material itself. If I am able to demonstrate through a rigorous research method that clustering of innovative people is occurring in these workplaces, and further that the people are driving the innovative process, then we have a framework from which to expand on what is already taking place in our local organizations.

I theorized that a company cannot be innovative on its own, there must be some process that is used that results in an innovative organization. This research set out to explore the innovative people, the innovative practices, or the innovative product / service. Does the very nature of innovation have to involve innovative people or practices?

By using a model such as Florida's Place Pyramid that was designed as a way for people to choose where they should live in order to meet their "creative" needs / lifestyle, and applying this to an organization, I thought that the research would show many similarities when it came to choosing where you work or rather that you could use the same process to choose where you worked.

Research Context

According to BioTech Canada, one of the top four challenges facing the development of biotechnology in Canada today is, "Attracting and retaining the high-quality people necessary to expand our research base to provide the necessary, experienced, entrepreneurial and managerial leadership to grow a bio-based economy" (BioTech Canada, 2009, p. 11). This same statement can be made for growing any innovative sector. From the government of Canada's "*Mobilizing Science and Technology to Canada's Advantage",* in order to take Canada forward in the world of innovation and prevent it from slipping further behind the developed countries, "…businesses and other organizations need to make better use of the skills, talent, and knowledge of our graduates. This, in turn, will generate more interest among young people in pursing S&T studies and careers, encouraging a virtuous circle of talent generation and mobilization." (Government of Canada, 2007, p. 10)

Research Approach and Design

The application of Florida's Place Pyramid is used through a series of interviews constructed around the long interview process (MacCracken, 1988). This process outlines a four-step method in the process of conducting qualitative analysis. These steps are centred around interviewing and extracting the critical information required to make informed conclusions from the material. I begin by conducting a thorough review of the current literature to analyze what is there and where potential gaps exist. This is followed by a personal examination of my own experience, what perceptions do I have as an interviewer and how must I construct my questions to avoid those perceptions entering into the interview.

The next step is the development of the interview questions. How will I construct these to elicit the broad responses needed to obtain rich data? MacCracken (1988) suggests using a "grand tour" format to formulate the questions. This format incorporates questions that are open and non-directive allowing for free input from the interview subject. He also outlines tips for eliciting as much information as possible from the interview, things like "floating and planned prompts" that leave room for the individual to expand on the question.

From the interviews, the data will be analyzed to search for relevant themes. This analysis looks at how these themes are connected and what conclusions can be drawn from them. This is the most critical part of the entire process. Being able to interpret the data in a manner that makes sense and can be supported by what I have found is what will give credibility to the research.

Florida's Place Pyramid

The application of Florida's Place Pyramid as a tool for choosing where to work has not been previously assessed. This research is asking are the elements of that pyramid - aesthetics, values, leadership, basic services, and opportunity - demonstrating commonalities in these innovative companies. Is the growth of the innovative organization organic or by design? And if by design, what are the principals being applied?

Figure 1: Florida's Place Pyramid (2007)

Opportunity: Economic Conditions, Job Market, Professional Development, Networking

In applying this concept to an organization, we would look at how well the company was doing from an economic perspective. Whether or not a company is commercially successful, or close to commercialization in the case of research organizations, would directly affect the outcome of the individuals potential for success. When choosing a place to work, the question an individual needs to answer is will the opportunity exist for the long term. The ability to develop professionally is closely tied to the environment of an organization and the opportunity for networking within your own professional environment.

Basic Services: Education, Health and Safety, Housing, Connectivity

Adapting these concepts from a geographic location to a work environment we look at education, in this instance what opportunities exist to further one's own education. Does the organization provide a healthy and safe work environment? Are there practices that support the individual such as health benefits, encouragement for staying physically fit, promoting safety in the workplace? Housing in this instance would be the

environment the individual actually works in, what is there that promotes productivity and encourages innovative thinking. This could be anything from a bright sunny work space to having the appropriate equipment to perform your job well. Finally, what opportunities are available for professional networking. The research around clustering speaks to the magnetizing effect of like minded individuals being attracted to one another. Florida studied this as part of his place and happiness survey, suggesting that achieving happiness was about feeling as though you fit into a community (Florida, 2009). This same principal would certainly apply in a workplace.

Leadership: Politicos, Business, Diversity, Access, and Engagement

The importance of leadership in any organization is critical to its success and within a company that is innovative it is perhaps one of the most important aspects. Being capable of encouraging innovation among people is a tremendous skill that can often be underestimated. The type of politics in a work environment can either encourage and support, or destroy, new ideas and alternate ways of doing things. Creating an environment that allows for managed risks is an important element of promoting innovative thinking.

What type of business culture exists is another key element in any innovative organization. This is closely associated with the other elements of politics, diversity, access, and engagement in that the culture itself is part of what makes up the business environment. Does the company accept and promote diversity among its people? Do they provide open access to leaders and do they engage in communication with their workers? Repeatedly the importance of open communication with ready access to key decision makers was presented in the literature as critical to the success or failure of a company.

Values: Tolerance, Trust, Self-expression, People Climate

What type of values an organization lives by will say more about its ability to succeed than any amount of innovative products or services. A company might have the most innovative ideas in the world but if it doesn't create an environment that is tolerant, where people feel they are accepted among their peers, then the ideas will die before ever coming to fruition. Individuals have to feel they are trusted and can trust those around them; they must be comfortable taking ideas forward; and, ultimately, the atmosphere within the organization has to be people focused.

Aesthetics: Physical Beauty, Authenticity, Amenities, Buzz

Finally there is the actual physical place in which an individual works. Is it a visually pleasing environment? What types of amenities are located on the premises and close at hand? What is the atmosphere of the place? Is there an energy about it, do people enjoy where they work, is there a buzz about what they are doing and where the company is headed? All these elements will make for an encouraging physical location to work.

Data Collection and Analysis

The process of selecting people to interview was focused on who would best capture what was taking place in an organization. I identified senior managers reporting at a higher level and managing a staff of at least five people. It was felt that a company smaller than five people would be unlikely to have a stated human resource policy. While some of the companies interviewed did not have stated policies, being larger than five people generally meant they had to engage in some set of human resource practices whether they were stated or not. Participants in the interviews were all voluntary.

After collecting the data, the interviews were transcribed and run through NVIVO to capture themes.

CHAPTER 4: FINDINGS

This chapter discusses my findings and highlights the data to support the themes I have developed from the research. The research methods utilized in these interviews were based on a well established interviewing process, that of MacCracken's (1988) long interview process. By ensuring that the questions asked of individuals were carefully crafted to be open-ended and allow for extensive input from the interviewee, I believe my themes are amply supported.

Study Sample and Method

In selecting candidates for this research I identified companies within the IT and biotechnology sectors in PEI that were perceived to be innovative. Two of the companies selected would be considered medium-sized (between 100-500 employees). One was part of a larger multinational with the PEI operation having less than 100 employees. The remaining five companies employed between 10 and 50 people. Of the people interviewed, six were male and one was female.

Permission to conduct the interviews was sought from employee managers. In all instances the interview was conducted at the employee's work location. Each interviewee was first asked to complete an informed consent form (Appendix B) which essentially asked if they were there of their own accord and if they understood the purpose and process being undertaken. They were also offered the opportunity to review the final report.

With permission of the interviewee, each interview was recorded and notes were also taken to aid in the analysis of the transcribed interviews. Each interview lasted an hour on average with plenty of time allowed for the interviewee to comment on the

overall questions, flow of the session, and general thoughts about the purpose of the research.

The material from each interview was transcribed into a single document. This process of transcription revealed common phrases and responses across all the interviews. A short list of those responses was created as the beginnings of formulating themes. To support those themes and further develop them the full document was run through NVIVO. The resulting document was used to prepare a spreadsheet capturing common words and phrases that centred around the elements of Florida's Place Pyramid. This spreadsheet was used to develop a table of themes that were the starting point for the full analysis of the data collected. This table was then developed into a full interpretation of the material collected.

Originally I intended to conduct eight to ten interviews but there were recurring themes evident very early in the interview process. Theoretical saturation was reached at seven interviews conducted. Word frequency and clustering clearly supported the themes that were emerging. It was important to ensure that individual interviews were speaking about the same thing, thus when I developed the spreadsheet capturing word frequency I also included the phrases around the words. This allowed me to see in what context the individuals were using a term. With that spreadsheet I was also able to assign the phrases to the various categories of the Place Pyramid.

After I had developed my spreadsheets and themes I presented them to my advisor, Dr. Wendy Carroll, for verification. We both reviewed a single interview and from this Dr. Carroll validated my themes. The interpretation of those themes is supported by quotes from individual interviews.

What was evident from this process was how all the companies interviewed were incorporating elements from the Place Pyramid. Whether consciously or unconsciously, they were creating environments that encouraged innovation on an individual level which further spread out to a corporate level.

Innovation and the Place Pyramid

The idea behind the use of the Place Pyramid was to explore manager perceptions of whether opportunity, values, leadership, aesthetics, and basic services were being met in their work environment. It was not until I had completed the transcribing process that it became clear just how often certain words or phrases were being uncovered. The interviews were then coded and developed into a spreadsheet capturing the overall phrases and words. While going through the combined document to pick out these items, I captured the phrases around the use of the word and placed these in a running spreadsheet. The purpose in capturing the phrase around the word was two-fold: firstly to see how many times and in how many different interviews it was used, and secondly to capture the context in which it was being used - what did individual interviewees mean when they used a certain word. In order to have an accurate interpretation of the data I needed to ensure everyone was speaking about the same thing.

The capturing of these phrases brought to light a number of themes that were developing from the data. These were words like people, together, open, communication, opportunity, brilliant, encouraging, all of which seemed to fit within the categories in the Place Pyramid. In order to capture what these words were in relationship to, I expanded the original spreadsheet to include the five categories of the Place Pyramid and indicated what category each word / phrase was related to. Once all the phrases were categorized I

worked on developing those themes and finding a label that described what they meant. My analysis revealed four themes: Kaleidoscope, Freestyle Leadership, Bright Bulbs and Competitive Advantage.

When I developed the Kaleidoscope theme I was thinking of it in the context of numerous different pieces coming together. From ask.com there is a definition of kaleidoscope as "a series of changing phases or events", this is a good explanation of what the data was speaking about with respect to opportunity within organizations (Dictionary). Interviewees spoke about being exposed to opportunities they felt would not have been made available to them in another organization:

> "I started as a research scientist, then I moved to sales and marketing
> (technically) oriented, I worked in product management, then I worked in
> custom product management … there became an additional manufacturing
> manager which I became and following that Director of Biotechnology
> Manufacturing. I don't think if I'd been in any other company that I would
> have had the opportunity to have so many different experiences."
> (Matthew)

From the questions related to leadership style the idea of openness and a lack of structure were evident. Even in larger organizations where a more formalized leadership style might be expected, managers were still talking about a very "freestyle" form of leadership.

> "… you see what I mean it's that group right under the Board and than
> there's the Director of Research who I report to but sometimes I'm talking
> directly to these guys at the top, just talking to everyone all the time, so

while it's structured it's not so firm that you can't have conversations with

anyone at any time." (Bill)

While some interviewees spoke about the use of more formal tools like 6 Sigma or

SCRUM, these were only seen as a means of managing the work, they were not viewed

as the tool that would generate innovative thinking.

"Now part of that is the leadership comes from within, so it's more of a

team mentality rather than a leadership mentality."

" … Those daily meetings are literally what did you work on yesterday,

what are you working on today, any roadblocks stopping you from getting

to the point where you need to be." (Leslie)

The idea of having this open communication up and down the line seemed to be

what allowed for ideas to generate from most anywhere with managers encouraging that

participation by providing opportunities for that input.

"So I think they like to feel that inclusion, it helps me too because I see a

certain problem that you come up against … it's interesting to say to the

tech, okay what do you want to do, how would you approach that?

Sometimes it's quite interesting to see how different the approach is, you

think wow, I wouldn't have done it that way." (Lauren)

In speaking about personal leadership styles and opportunities within a company,

the theme of development of "bright bulbs" came to light. Interviewees spoke to

opportunity provided to both themselves and staff as allowing the "bright bulbs" (Leslie)

to shine. From these "bright bulbs" came the "competitive advantage" for the companies.

Managers seemed to be very cognizant of the need to create a competitive advantage, and

while the product or service they were working with was important they felt one of their greater advantages was their people.

It was through the process of categorizing the words / phrases as they related to the Place Pyramid that the themes began to emerge. While the people interviewed were all part of innovative organizations, they were each engaged in very different activities. Some companies were intense research and development organizations while others were focused primarily on their manufacturing / production capacity. The repetition / similarity in responses spoke to the premise that innovative organizations do have commonalities that may not be immediately evident.

Putting these back in the context of Florida's Place Pyramid, it seems evident that the right place can create happy people who are more likely to be innovative and creative.

Table 1: Summary of Overall Themes

Theme	Ties to FPP	Description	Keywords
The Kaleidoscope	• *Opportunity* • *Values*	• Bringing people, skills and knowledge together in a way that complements, enhances, & encourages innovative thinking. Trying new things that might not be tried separately but in the context of others is encouraged.	People Diversity Together Collaboration Everyone Team Whole
Freestyle Leadership	• *Leadership* • *Values*	• Open leadership that allows input at all levels as well as open working environments that create the opportunity for interaction. No barriers to management.	Open Together Free thinking Opportunity Empowerment Ownership Communicate Encourage

			Support Communication Respect
Bright Bulbs	• *Opportunity* • *Values* • *Leadership* • *Aesthetics*	• Bringing bright people together generates new ideas. • Having varied backgrounds provides opportunity to find competitive edge. • Good work practices leading to good ideas.	Smart Cleaver Bright bulbs Brilliant People shining Great Best Success Ability Education
Competitive Advantage	• *Aesthetics* • *Basic Services*	• Flexibility and adaptability through the work environment – this can mean structure or physical environment.	Adaptability Agility Resources Interactions Environment Different Better Quality

Theme 1- The Kaleidoscope

This theme centered on bringing people, skills and knowledge together in a way that complements, enhances, and encourages innovative thinking. One of the central elements of this theme was the underlying way in which people worked together. It focused on trying new things that might not be tried separately but in the context of others is encouraged. A key aspect of the kaleidoscope was bringing together people from various places in the organization to collaborate. It might have been bringing people in from different organizations by way of a merger or it could be putting together different sets of skills, but they were all speaking to the opportunity this created for development and the values the companies placed on communication and diversity among their people.

While this may not have been the intent, in other words there were no set policies, the flexibility provided for input from many different individuals. One interviewee said, "The encouragement I get is watching people do the innovative things." (Doug). It was that coming together that presented a kaleidoscope of opportunities resulting in new ideas and products that would not have been developed separately.

> "You got to put the right group of people together and allow them to communicate because to me that's where it happens. The innovation happens at that crossroads, where people are sitting together or talking together about their experiments or their experiences." (Bill)

What was surprising in the responses was the repeated occurrence of senior managers indicating they found opportunity in watching their people succeed and come up with new ideas rather then they themselves moving upward. The idea of learning through open, varied communication was evident in numerous comments by different interviewees. No matter how they expressed it they were all essentially saying the same thing which was how important it was to always be communicating, especially given the diversity of ideas and people all contributing in different ways.

> "It's a combination of the right people, the diversity of education, experience, skill sets, it's also the right personalities so that everybody can communicate." (Lauren)

This open communication and sharing of knowledge and ideas established a competitive advantage with customers as well as allowing for the expansion of ideas based on a continuous "brain-storming" environment. By bringing people together, either by way of their actual work environment or as a regular part of the daily or weekly work

schedule, they were solving problems or finding new approaches by communicating together.

> "…. adamant that we take people from different departments and put them together, so if I'm sitting at my desk doing my job, and I'm sitting next to Susie who is in customer support I can hear what she is going through." (Terry)

There was a belief within these companies that providing opportunities to employees ensured future innovation. This belief spoke to the values of the organizations in that they believed giving people opportunity was the best possible motivator and innovator.

> "… can't predict it until you bring these different people together from different fields into one building..." (John)

The managers felt this bringing together of different skill sets allowed for innovative ideas to be generated. It was like creating inspiration sessions where anyone was provided the opportunity to give input.

Theme 2- Freestyle Leadership

This theme focused on open leadership that allows input at all levels as well as open working environments that create the opportunity for interaction. No barriers to management, this was the way leadership styles were described.

Freestyle Leadership: not meaning a free-for-all but rather an open environment that encourages input at all levels. What was freestyle was the process taken to allow that open communication. What was common throughout was the communication at all

levels, the openness to ideas coming from anywhere, the belief that innovation could happen in any area of the organization as long as everyone was given the opportunity for input.

> "Every person, I wouldn't care if it was the janitor, you know if we did
>
> this and we saved 50 cents a month on toilet paper – I'm doing it, not even
>
> thinking twice because that person is taking pride ..." (Doug)

All interviewees described an environment of functioning with a very loose set of principals but always with an eye to encouraging individual excellence. They felt that by allowing their people to shine in their work they were getting the best possible innovation for the company.

What this freestyle leadership demonstrated was that these leaders were more personally inspired by seeing others succeed. When asked about what motivated them in their work, they frequently echoed this sentiment:

> "The encouragement I get is watching people do the innovative things. I
>
> get no greater satisfaction than watching their design become a hit or their
>
> idea be what makes or breaks a process." (Leslie)

The connectedness between both the leadership style and the values was apparent in the words used to describe the leadership style, words like respect, support, encourage, were all much more closely tied to the value these managers placed on the people. A common concern through several of the interviews was that as the companies grew they would lose some of the core values of respect. A company that had undergone significant growth in the prior 24 months talked about the changing face:

"….you're used to being part of a very small team where everybody knew

each other …our leadership style has changed because now we realize

people are looking to us to be the leaders … so we have to make sure there

is a certain level of respect that develops so that we have a good working

relationship." (Terry)

What these managers said often was that innovation would not take place in very

structured, inflexible environments where process and procedure needed to always be

followed.

"So not having someone with whips behind you saying you had a deadline

for some administrative item … the creative process works that if you

were pigeon-holed with these obscure little details, which they are

important, we understand that, but it's also good to have that flexibility."

(Bill)

While it may sound cliché to use words like empowerment and ownership to

describe leadership styles, these managers demonstrated through their responses that

those terms were exactly what they were doing in leading their organizations.

"The company leadership style is very empowering as I see it and I tend to

lead by empowerment as well. (You) have to have a sense of ownership

and it can't be in a silo." (Matthew)

These types of responses demonstrated a willingness on the part of leaders to give

employees a sense of ownership by allowing them to bring forth ideas and make

decisions. In the end the idea or decision might fail but the individual would still be left

with a feeling of having worked toward the solution rather than just following orders.

Whether they were speaking about developing a new process or advancing a new technology, they were always speaking to the importance of not just guiding people but allowing them freedom to function, to make mistakes and to learn from those mistakes. "You failed on your idea, well we didn't fail, we just wanted to switch - research is failure every day, that's how you learn." (Bill)

What was evident from this approach was the recognition that taking risks gave employees confidence and this confidence was breeding innovation. By giving everyone the opportunity for input and the ability to affect change they felt they were giving them a sense of not just responsibility but also ownership of the end product. Leadership is about focusing on people and giving them space to succeed.

> "If people like their job or are rewarded or get some sort of satisfaction,
>
> you get no greater value from your job than doing something that brings
>
> value to the corporation. …but when you stifle that and then you don't
>
> treat your people right and you allow shoddy practices then quality goes.
>
> People see right through that in two seconds. So you can't buy peoples
>
> happiness at all, it is not possible. … people who quit, nine times out of
>
> ten will not tell you they quit because of money."(Doug)

There is so much packed into this one quote, it speaks to the ability to innovate, the acceptance of failures when taking risks, the potential rewards in taking those risks, the pride of ownership that comes from being part of the solution and ultimately the happier employees are when they are given the freedom to be creative. There is the recognition that openness in leadership does not breed chaos but rather creates the environment for success at all levels. That success is translated into happy people who enjoy their work

because they have the ability to be an active participant in the direction of that work. Freestyle leadership seems to be the key to controlled or organized chaos. By allowing a bit of chaos to take place you allow creativity to flourish.

This freedom to operate ties back to Casper's findings of people feeling that challenging work is the most important thing in their job (Casper, 2009). What this leadership style was supporting was the recognition of that need to be challenged every day in your work environment.

Theme 3- Bright Bulbs

Bringing bright people together generates new ideas. Having varied backgrounds provides opportunity to find a competitive edge and good work practices leading to good ideas. The idea of "bright bulbs" came through with various words but always supporting that same idea, that surrounding or building an organization around really intelligent individuals was the key to success of the organization.

" I'm surrounded by an interesting mix of sort of an older generation and a

younger generation. And just being able to learn from that, to hear

different thoughts and how people will approach solving a problem or

trying to build something new is very interesting to me." (Terry)

References to bright people and bright ideas and brilliant thinkers were not so much about education or even experience as it was about allowing people to be innovative by giving them the "freedom to think" (Bill). Certainly training and experience are important for innovation to occur but creating the environment that allows it to occur is so critical to

getting that creativity flowing. This quote captures the essence of what does not support

innovation:

> "I could stymie every single persons innovation on a whim, I could tell
>
> people they are lucky to have a job, they are only to do what I want them
>
> to do, they should only speak to me when I want them to speak to me. You
>
> would crush all innovation – so it is the leader who must encourage, coach
>
> and be able to say it's okay if it's a mistake, because innovation has to
>
> assume risk." (Doug)

On the surface identifying the really bright people and allowing them to shine

might appear more about making the right selection when it comes to hiring but the

responses show it is equally important about how you lead those people and what

atmosphere exists to encourage them. One interviewee talked about seeing people "come

from nowhere, someone who really didn't have that experience, and see them take a

leadership role, really just see them shine." (Leslie) That view of seeing people shine has

much more to do with fostering a culture that allows for innovation.

From an organization that while producing innovative products was also heavily

focused on production, the manager was still aware of the need for input from staff and

always being on the lookout for talent.

> "We've learned how to use those skills together, plus we are big on hiring
>
> clever people, people who've got some ideas and can think outside the
>
> box." (Alex)

This search for brilliance was seen in the environments that were created as well.

Several of the people interviewed talked about clustering people with varied backgrounds

into an environment where they were forced to work together and communicate. While

this could have resulted in resentment at being in a confined space or being stuck with

people who do not have the same expertise as yourself the reverse seems to have been

true. Innovation was occurring and it was rooted in open communication. The

environment created might be one whereby a junior person was paired up with a senior

person or people with different expertise were placed side-by-side to resolve a problem or

develop new ideas.

> "So you could provide offices and lab spaces that allow lots of space but
>
> you wouldn't have the interaction you have in these more confined spaces,
>
> it's almost forcing the situation,…" (Bill)
>
> "The innovation happens at that crossroads where people are sitting
>
> together or talking together about their experiments or their experiences.
>
> You know, how are we going to do this and sharing that information,
>
> that's vital. (Lauren)

Environments created to encourage innovation could also mean providing the right

tools for that individual to excel. This was demonstrated by one company allowing its

people to communicate through MSN because by nature they were not good at "talking

up" but using the tools of their trade they were comfortable advancing their ideas.

> "It may seem silly to MSN to people sitting right next to you but for
>
> people who have a challenge talking up, it works really well. (Leslie)

The encouragement of bright individuals extended beyond having them bring new

ideas to the table, in a number of the interviews it became evident that managers felt they

were ensuring the on-going success of the organization by encouraging these bright people.

> "I've had people working for me where I have said, if I'm not reporting to this person in two years time then we've not done our job because that person is brilliant. Your job is always going to be easier when you have smarter people than you and I enjoy being around smart people." (Doug)

Theme 4- Competitive Advantage

Flexibility and adaptability through the work environment – this can mean structure or physical environment. In order to be innovative each company must have something that sets it apart from its competition. Again, competitive advantage for the companies surveyed went beyond the product or process they were developing. What came from the interviews was a strong sense that their competitive edge was as much about the people they employed and the work environments they created.

Because these companies were all small, fewer than 100 people in most instances, they often found themselves having to be innovative in the way they worked. For example one company, while producing highly innovative products, also found themselves by necessity having to be good at many different things. They were researcher, developer, manufacturer and distributor all in one. This need to be all things forced them to be flexible which in turn meant their staff also had to be adaptable.

Encouraging individuals to be adaptable, as well as allowing them to try different approaches to any given problem, meant new ideas would come to the surface that otherwise might not have arisen.

"So we changed the way we do business, we changed a lot of our

technology, we changed a lot of our training of our employees …"

(Matthew)

A willingness to consider input from various sources and really approach problems as a group was a key factor to be able to innovate solutions. All the interviewees talked about the importance of accepting differing points of view as a means of finding answers to questions. One of the managers stated it as follows:

"….and just being able to learn from that, to hear different thoughts and

how people will approach solving a problem or trying to build something

new is very interesting to me" (Terry)

Key to all of this willingness to adapt and change on the fly was accepting that mistakes might take place but without mistakes or failures there would be no successes. While we hear people talk about that willingness to allow people to fail, these managers were living it on a daily basis and were truly open to having failures in order to achieve success. When defining innovation one manager stated it like this;

"…because innovation is usually at the edge of a big cliff, you're stepping

out while your building the step and if all you're doing is building on

conclusions your building on somebody else's work, it's too late." (Doug)

This speaks not only to innovation but how they see their competitive advantage. That advantage is achieved by a willingness to try something different and not always be drawing on the conclusions others have already arrived at. "So encouraging those people with that mindset and then going ahead and alright let's try this." (Lauren)

There was no sense of fear that by training others or bringing others along you might be working yourself out of a position, rather it was seen as a competitive advantage to ensure someone else was always capable of doing your job.

> "…we want our employees to know they are not just clock punchers, they are not just here to do this or that, they are here to learn and to grow. I'm a big believer that you train the person below you so they can replace you. …" (Alex)

What was surprising from these responses was that managers thought their competitive advantage was not in what they were doing but what they were getting from their staff. What this represented as an overall theme in all the interviews was a willingness on the part of management to share information and knowledge and encourage others to be learning all the time.

Research Summary

My research is centred around innovative companies functioning in the biotechnology and information technology sectors in PEI. I took Florida's Place Pyramid and applied it in organizational settings. By using the long interview method outlined by MacCracken (2008) data were collected from individuals within these organizations and evaluated, searching for general themes that speak to the innovative practices of organizations.

The themes that emerged from the data provides preliminary support that the Place Pyramid could be applied at a micro-level. There appears to be a connection between innovative organizations and the people who work within them. By examining what opportunities for individual growth were provided, what the atmosphere or feel of the

company was, what did the company value, were employees basic needs being met, I was

able to find commonalities across these knowledge worker based companies.

CHAPTER 5: DISCUSSION AND CONCLUSION

This study was conducted to explore Florida's Place Pyramid at a micro-level, namely within an organizational context. By interviewing managers in knowledge worker environments in emerging knowledge sector industries in PEI, it provides insights about the characteristics of place within organizations and the human resource practices that support such environments.

Summary of Study Findings

I began my research expecting that some of the elements of the Place Pyramid, namely values, aesthetics, leadership, basic service, and opportunity, would be identifiable in these knowledge-based work environments. While managers in these companies were not always consciously aware they were working within the context of the Place Pyramid, they all saw the importance of applying these principals. At the outset I was asking the question of whether this cluster development was happening by design or organically. After conducting this research I think it is fair to say the majority of organizations are developing in an organic manner. There is not necessarily a set of written principals they work by but they certainly see the importance of applying the elements within the Place Pyramid.

What is not focused on within these organizations is HR policies. In most instances they do not have written policies, but even within the organizations that do the focus is on a bigger picture of strategic HR management. Managers recognize the importance of creating environments that encourage innovation. Creating these environments could be around aesthetics, providing the right tools and space to allow innovation to occur; organizational, providing both opportunity and leadership that allow for creativity; or

cultural, what and how the values of the company are expressed. What appears to be occurring is the development of organizations that support innovation. Managers, whether consciously or unconsciously, are applying practices that meet the needs of the employees on a very personal level. This focus on strategically managing the work environments is leading to innovation from individuals and thus from the company.

Florida has suggested that common values, beliefs and attitudes can cluster geographically and because of this you can have a cluster that is outside the norm for the region (Florida, 2009). This research provides insights about the possibility of clustering creative and innovative people within an organizational setting. Both Florida (2008) and Casper (2009) suggest that clusters develop because of the networking that takes place within and the attraction of highly skilled individuals to a city or region. In PEI it appears it is happening at a micro-level in that companies are attracting these creative people by developing innovative environments.

Discussion

I began this research from the perspective of a government employee engaged in the growth and development of our local economy, recognizing that efforts by governments are focused on the company and not necessarily the people within an organization. I have found preliminary evidence of the value in looking at organizations from the perspective of both its innovative capacity and its human capital. These elements are essential for the overall success of both the company and the community as a whole.

Organizations working within the knowledge economy in PEI appear to be applying Florida's principals of place without being consciously aware that they are. Managers seemed to recognize the importance of providing the right environments for encouraging their workers to be creative and innovative but in most instances there were no set policies for creating that environment. I think it can be concluded that highly skilled individuals are attracted to one another and the clustering of people in organizations is happening because of who is there that other individuals want to be engaged with.

It is encouraging to realize that a small environment such as PEI's can develop its economy and a vibrant, diverse community at the same time.

Research Implications

What this research suggests is that organizations can develop their own innovative, creative environments and attract highly qualified people despite the macro level mega cities that Florida states are foundational. The importance of this to PEI's knowledge-based economy is recognizing that it is part of what brings people to PEI, that ability to work and live among peers. As decision makers promote PEI as a place for doing business they must be cognizant of the people attached to these sectors. In the end it really is all about the people, "…people oriented right down to the floor."(Doug) What has been asked of these innovative organizations is "Who's Your Company?", and the answer has been the one that provides the individual with the greatest potential for personal fulfillment, whatever they define that to be.

This research also provides support for the need of policy makers, within both organizations and communities, to be aware of the type of environment that supports innovation. The issues of declining birthrates, aging workforce and a limited knowledge-based labour pool are important to a small region like PEI. The need to draw people "from away" will continue to grow if governments wish to expand and diversify the traditional economy. Understanding what draws those people to the province is very important for the success of our knowledge-based economy.

<div align="center">Limitations and Future Research</div>

The research is limited in that it was qualitative in nature and is not generalizable. However, the study provides interesting insights that suggest that "mega cities" are not the only centres of innovation and creativity and that a more micro-level organizational approach can produce innovation from the inside out. This research focused solely on the individuals within organizations and did not consider other factors that are essential for success. For example, the impact of attracting highly skilled people and their families to PEI was not examined. In one interview the manager talked about the challenge and a shift in strategy to attract people:

> "…if you are not from here or from this area it's extremely difficult, especially the young people. We have had numerous young people who have come from the big city and have gone back to the big city. So we have somewhat changed our recruiting style knowing that the younger crowd, if you're not from here you're probably not going to stay here." (Terry)

The need to understand these demographics and how they impact the development of a company or an industry is critical to the future success of PEI's knowledge-based economy.

The question of retention was also not included as part of this research. We do know from employment incentive programs within the provincial government that the turnover rate among biotechnology companies appears to buck the trend. Casper's (2009) research further supports this as his survey indicated that in almost 75% of respondents the turnover rate was less than 5% (Casper, 2009). What needs to be understood is why that rate is so low. If there are practices that are working within biotechnology companies can they be identified and applied in other areas of the economy? There is a great opportunity for more research in this area.

Conclusions

Our knowledge industries are ones that require skilled people and often this requires looking outside the province to fill positions. Understanding what attracts people to a company is critical to being able to build the company and, in turn, the industry and the economy of PEI. It is my contention that communities can build around a sector or industry; I found preliminary evidence to suggest this is already happening at a micro-level in individual companies. These organizations are building their own communities of innovation. There is certainly evidence to suggest that employers, strategists and policy makers should be aware of the innovation that is occurring among the people of our knowledge-based sectors. As I indicated an area that was not explored was retention and this has significant implications for the future of these sectors. It is one thing for us to attract highly skilled people to the province, but if we are unable to retain them we will

be wasting valuable resources, both monetary and human. The success of the organization appears to follow directly from creating these hospitable environments.

What was enlightening about this research was the passion these managers brought to their workplace. They were excited about the work they did, the people they worked with and the companies they worked for. Casper's findings indicated the number one reason for being in an organization was challenging work, followed by the relationship with supervisors and co-workers (Casper, 2009). So employees are not as concerned with the success of the company as a whole but more with the work they get to do. I believe this supports my findings for creating workplaces that meet the needs of the individual employees.

The applicability of the Place Pyramid to individuals within an organization demonstrates the importance of meeting individual needs in order to be successful as a company. Individual achievement leads to company achievement which further leads to sector achievement and finally to regional achievement. Understanding the dynamics of individual needs within an organization will aid in the development of these specific knowledge-based companies and help to expand them into a knowledge-based cluster for Prince Edward Island.

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Appendix A: Research Questions for Interviews

Innovation and the Workplace: How does this occur?

The questions that follow are general in nature and meant to facilitate a discussion about what, in your opinion, your organization does or does not do to promote Innovation in the workplace.

The questions are based on the following five principals:

- Aesthetics
- Values
- Leadership
- Basic Services
- Opportunity

1)   What do you believe this Company offers by way of opportunity?

    o   Are you provided the opportunity for innovative development?

       If yes, how does your Company go about providing this?

2)   What, if any basic services are provided for personal development within the Company?

    o   What specific tools are available?

    o   Does the Company foster growth and personal development?

    o   What do you require, in terms of support, to feel fulfilled in your work?

3)   What is your leadership style?

    o   Are you conscious of a particular leadership style?

    o   Do you believe your leadership style promotes an innovative environment?

    o   Does the Company have a leadership style that can be defined? How would you describe it?

4)   Does the Company have a set of stated values?

    o   Do employees know what they are?

- What, if anything, does the Company do to ensure/encourage employees to live those values?
- Do these values encourage/foster Innovation?

5) Is the Environment conducive to promoting Innovation?
   - If yes, what makes it so?
   - If no, what could be done to make it so?

<u>Appendix B: Informed Consent Form</u>

(Interviewees)

Innovation and the Workplace: How does it occur?

Joan Turner Adams
(Phone # 902.569.7584 email: hturneradams@upei.ca)

I am a graduate student at the University of Prince Edward Island in the School of Business Masters of Business Administration Program. As part of my Executive MBA program, I am conducting research under the supervision of Dr. Wendy Carroll of UPEI's School of Business. We are inviting you to participate in this research by taking part in a one-on-one interview. The purpose of the research is to examine Innovation in the Workplace, how does it occur? Are there environments more conducive to fostering Innovation?

For this research I will conduct interviews with Senior Managers to investigate what role they play in creating an innovative work environment. I will also interview junior level employees to examine their view of what constitutes an innovative work environment.

Your participation in this study would be greatly appreciated. I will work with eight local companies, interviewing a senior level manager and junior level employee for a total of 16 interviews. The interviews will be approximately 45 minutes to an hour long and will be conducted at your work site. Your participation is completely voluntary and you may withdraw from the study at any point. You may also decline to answer any questions you choose.

All information gathered for this study will be kept confidential and anonymous within the limits of the law. My supervisor, Dr. Wendy Carroll, and I will be the only persons with access to the data including your identity. All interview participants will be randomly assigned a pseudonym and all audio, electronic and paper files will be coded only with the pseudonym. Retrieval of such files will be done using the pseudonym. To further protect individual identities, this consent form will be sealed in an envelope and stored separately. All efforts will be undertaken to ensure confidentiality; however, due to the nature of the research question and the small number of participants it may not be possible to guarantee anonymity.

If you have questions or concerns, please contact Joan Turner Adams at 902.569.7584 or email hturneradams@upei.ca.

This research has been reviewed and approved by the University of Prince Edward Island's Research Ethics Board. If you have any concerns about the ethics of the study,

you understand that you can contact the UPEI Research Ethics Board at 902.566.0637 or by emailing Lynn MacPhee at lmacphee@upei.ca.

By signing this consent form, you are indicating that you fully understand the above information, including audio taping, and agree to participate in this study. You are, also, providing permission to use quotes, with no reference to your name, from the interview.

Participant Signature: _____ Date: _____

Please keep one copy of this form for your own records.

Participant Request for final Report: Yes _____ No _____

Address to forward:

Email _____

Mailing _____

_____

_____

Appendix C: Ethics Board Approval

UPEI
UNIVERSITY
of Prince Edward
ISLAND

550 University Avenue
Charlottetown
Prince Edward Island
Canada C1A 4P3

January 18, 2010

Joan Turner-Adams
School of Business

Dear Ms. Turner-Adams,

Re: REB Ref # 6003544

"Innovation and the Workplace."*

The above mentioned research proposal has now been reviewed under the expedited review track by the UPEI Research Ethics Board. I am pleased to inform you that the proposal has received ethics approval. Please be advised that the Research Ethics Board currently operates according to the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* and applicable laws and regulations.

The approval for the study as presented is valid for one year. It is your responsibility to ensure that the Ethics Renewal form is forwarded to the ORD prior to the renewal date. The information provided in this form must be current to the time of submission and submitted to ORD not less than 30 days of the anniversary of your approval date. The Ethics Renewal from can be downloaded from the ORD website
http://www.upei.ca/research/reb_forms

Any proposed changes to the study must also be submitted on the same form to the UPEI Research Ethics Board for approval.

The Research Ethics Board advises that **IF YOU DO NOT** return the completed Ethics Renewal form prior to the date of renewal:
- Your ethics approval will lapse
- You will be required to stop research activity immediately
- You will not be permitted to restart the study until you reapply for and receive approval to undertake the study again.

Lapse in ethics approval may result in interruption or termination of funding.

Notwithstanding the approval of the REB, the primary responsibility for the ethical conduct of the investigation remains with you.

Sincerely,

Lori Weeks, Ph.D.
Chair, UPEI Research Ethics Board

cc.	Dr. Wendy Carroll, School of Business