

**TECHNIQUES OF GOVERNMENTALITY, NEOLIBERALISM,
TECHNOLOGICAL DETERMINISM, AND THE MCKENNA MIRACLE: A
NEW BRUNSWICK CASE STUDY**

by

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Abstract

The purpose of this thesis is to examine the promise of the information and communications technology sector (ICT) as the engine that would drive New Brunswick's economic development strategy during Liberal Premier Frank McKenna's ten-year mandate from 1987-1997.

This mandate was driven by a set of socioeconomic policies, infused with principles of neoliberalism and globalization, which the New Brunswick government deployed in an attempt to condition its citizens to participate in a newly envisioned knowledge-based economy.

Through an interdisciplinary, explanatory, case study methodology I will demonstrate that the entire McKenna mandate was underpinned by the rhetoric of technological determinism and executed through processes of governmentality. While successful in ushering in an era of neoliberalism the mandate failed to create a self-sufficient society and a knowledge-based economy in the province.

Dedication

This project is dedicated to my wife Andrea who probably could have written it twice as well in half the time.

Acknowledgments

The completion of this project would have not have been possible without the complete support, meticulous editing, and probing questions of my wife Andrea. To Dr Dann Downes, who gave me the encouragement to finish when I needed it the most and also taught me that time spent ruminating on the subject is certainly time well spent. To Dr Chris Doran, your mentoring and coaching made an immeasurable impact on my writing (yes, there is still much room for improvement). To Dr Greg Fleet, who advised me very early on to persevere through personal doubt, and there would be personal doubt. Finally, to Dr Rob Moir, your enthusiasm is infectious and your arrival into this project could not have been timed any better.

As it turns out, writing a thesis is difficult. I am forever indebted to the people who made this possible.

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Introduction: Technology, New Brunswick, and the McKenna Mandate

A Toronto Star article from May 24, 1994 best summarized New Brunswick's attempt to technologically fuel an economic renaissance under the leadership of Frank McKenna. The article detailed the exploits of computer entrepreneur Barry Friedman who, like others, came from "across Canada and elsewhere to plug into this province's [New Brunswick's] cutting-edge communication system" (Brehl, 1994, p. 1). Friedman moved his computer software company from California to New Brunswick to take advantage of the scenery, freedom, safety, and security of the province along with New Brunswick's leading edge digital communications network. The article focused on Friedman's particular experience while espousing a set of unexamined values including self-reliance, entrepreneurship, and technological adoption that neatly encapsulate New Brunswick's economic and social policy under McKenna. McKenna's vision was to wean New Brunswick off the resource-based economy that had characterized the province for more than a century and to capitalize on the promise of a high-tech economy. In the course of the article McKenna articulates his utopian technological vision for the province: "the information highway's economic boom is the largest single element in changing this Province's destiny. This is our ticket on the uptown bus" (Brehl, 1994, p. 1).

Donald Savoie (2001), Research Chair in Public Administration and Governance at the Université de Moncton, states, "New Brunswick has long been classified as a have-less province" (p. 15). It is against this historical identity that

McKenna inherited a floundering New Brunswick economy and attempted a “crusade to wean a small, traditionally have-not province from its reliance on a resource industrial base and its ‘institutionalized dependency’ on unemployment insurance” (Lownsborough, 1993, p. 21). McKenna’s crusade was based on the rhetoric of the postindustrial society and technological determinism, and the entire high-tech recipe can be encapsulated in the following goal: New Brunswick was to become the North American call centre capital, with expected economic and technological spillovers; and large firms were to be encouraged to locate their IT work in New Brunswick (Courvisanos, 2000).

The purpose of this thesis is to examine the promise of the information and communications technology sector (ICT) as the engine that would drive New Brunswick’s economic development strategy during McKenna’s ten-year mandate from 1987-1997. In using New Brunswick as a case study, this thesis will examine how technological innovation is often viewed as synonymous with progress in creating a “post-industrial”, or “knowledge-based” economy. The desire for technologically intensive, knowledge-based economies has become a common aspiration for struggling industrial economies in the late 20th and early 21st centuries. This thesis will examine the set of socioeconomic policies the New Brunswick government deployed to condition its citizens to participate in this knowledge economy and also demonstrate the consistent reinforcement of these political ideas through speeches, policy documents, news releases, and the media in general.

Personal Impact

It was on the cusp of this promised technological revolution that I began my professional career in the ICT sector. As a college graduate of the early 1990's I personally experienced the impact of New Brunswick's adoption of information technology as an economic engine and witnessed firsthand the fruition of McKenna's plan. As the premier discussed in a 1994 article in the National Post, "knowledge-based industries are expected to create the highest percentage of new jobs" (Jones, 1994, p. s28). I earned a diploma in Electronic Engineering Technology (EET) from the New Brunswick Community College (NBCC) and was immediately hired as a network analyst for the large multi-national conglomerate, International Business Machines (IBM). IBM was in the process of building a state-of-the art call centre for Canada's flagship air service provider, Air Canada, in Saint John, New Brunswick. My personal experience, like that of Barry Friedman, reinforced the idea that New Brunswick's digital infrastructure, combined with tax incentives and a ready-made workforce, was capable of luring international investment to the province.

Unrealized Promises

Two decades later this particular call centre has drastically reduced its size and the provincial government's championing of the information super-highway has been replaced with the promise of a Southern New Brunswick energy hub. Using language strikingly similar to the high-tech rhetoric of the 1990's, McKenna has recently preached "a confluence of conditions puts Saint John, New

Brunswick in an extraordinarily advantaged position to take advantage of this unprecedented energy revolution that is sweeping the world” (CBC News, 2013). Instead of becoming location independent, which is a key characteristic of a knowledge-based economy, the New Brunswick economy has remained resource based and location dependent. In late 2010, the prominent Canadian business leader and University of New Brunswick chancellor, Richard Currie, called New Brunswick, with its accumulated debt of nearly \$8 billion dollars, “a failing province” (CBC News, 2010). In retrospect, it appears evident that New Brunswick never developed the ‘high-tech hub’ it’s champion longed for it to be. Taking into consideration the current state of the province’s finances, and its cyclically high unemployment rates, it is clear that the McKenna mandate failed in its promise to economically transform New Brunswick into McKenna’s utopian vision of a self-sufficient province.

Interdisciplinary Case Study Methodology

This thesis will present a case study of New Brunswick’s high-tech initiatives through an interdisciplinary, explanatory, case study methodology. It will be demonstrated that the McKenna mandate was underpinned by the rhetoric of technological determinism and executed through processes of governmentality first articulated by French philosopher Michel Foucault. A significant focus will be placed on demonstrating that the adoption of a high-tech economy is not an inevitability of technological progress, but rather represents a concentrated effort on the part of jurisdictions to capitalize on the rhetorical promises of technology

while implementing a series of neoliberal policies. By employing a case study methodology, comparisons and contrasts can later be drawn with other postindustrial economies, like Ireland and Massachusetts.

The interdisciplinary approach to studying New Brunswick's neoliberal transformation is informed by 20 years of personal experience in the information and communication technologies field. As discussed previously, I entered the discipline immediately following graduating from an Electronic Engineering Technology program in 1998. At this time discussion of New Brunswick's impending knowledge economy was perhaps at a zenith. My collegiate field of study was specifically geared to train students to work in the high-tech field of information technology and my initial employment specifically involved providing digital infrastructure to the call centre industry. I also participated in other programs initiated during the Liberal mandate such as the "Get Connected" program that encouraged citizens to purchase home computers and subsidized Internet service provided through NBTel. My story, like many of my colleagues of the time, fit neatly into the McKenna high-tech mandate. In many respects I lived the McKenna miracle and my experience provides a blueprint of how the process could work to revitalize the New Brunswick economy. At the time my experience seemed to be a natural inevitability of technological progress but as the case study will reveal; this is not the case.

Much has been written about New Brunswick's technological adoption and economic repositioning under McKenna's leadership. In particular, New Brunswick adopted a neoliberal mandate and embraced conditions of globalization in a desperate

economic development strategy. It is precisely this conscious, and particular, repositioning that communication theory fails to explain and thus this study requires an interdisciplinary methodology.

Communication theory is instructive for understanding the relationship between technology and society but using communication theory exclusively highlights the limitations of discipline centric research to accurately present a case study. The exclusive use of communication theory has definable limits in explaining the fundamental transformation that took place in New Brunswick in the late 1980's. To overcome this limitation of discipline centric research, this thesis will explore a body of works of technological philosophy (Bell, Ellul, Drucker, Innis, Heidegger, etc.) before introducing established frameworks for understanding technologies relationship with society (instrumentalism, determinism, substantivism, critical theory). This approach will ground the research by providing a foundation of technological theory thus enabling us to examine the shift to an era of neoliberalism, and an embracing of globalization, through sociological theory such as governmentality. This is the interdisciplinary case study approach.

A number of research methodologies may be used to fully develop the case study. This study will be temporally bounded, examining the New Brunswick experience between 1987 and 1997. The most prevalent data collection approach will be through secondary research of texts, recorded speeches, books, published academic articles, newspaper articles, census data and government policy documents. Particular attention will be paid to the language

regarding economic development policies and demonstrating that a new economic vision is willfully created by the government of the day and that provincial media outlets echo this construction.

Employing a case study methodology can be difficult as “using case studies for research purposes remains one of the most challenging of all social science endeavours” (Yin, 2009, p. 3). Yin establishes four significant obstacles surrounding case study research: a lack of scientific rigor, very little basis for generalization, significant length of study, and limitations in effectively proving causal relationships. Recognizing these methodological weaknesses, the value of a case study in retaining “the holistic and meaningful characteristics of real life events” (Yin, 2009, p. 4) makes it an effective and appropriate approach for this study.

The New Brunswick experience involved the regional hollowing-out of a jurisdiction in an attempt to attract domestic and foreign investment by creating a region that could compete with any other region globally in the high-tech economy. There has been a great deal of research on New Brunswick’s efforts to develop a Schumpeterian workforce based on innovation and technology (Courvisanos, 2000; McFarland, 2009). This research project is unique in that the interdisciplinary methodology is able to provide a more robust narrative of the period than a traditional economic, political, or sociological study.

Chapter one will provide a selective economic overview of New Brunswick from the time of Confederation to the present. The purpose of this selective historical account is to establish that New Brunswick prospered early in its economic history but has

struggled economically for better part of the 20th century and into the 21st century. The success and decline of the New Brunswick economy will be explained using staples theory, developed by political economist Harold Innis, and I will demonstrate that New Brunswick developed as it did due to a reliance on resource extraction and exportation. I will also demonstrate that for the last century New Brunswick has relied on federal transfer payments and has become, as McKenna argued, a "supplicant" within the national system. It was against these conditions that McKenna would attempt to economically reinvent the province through the adoption of digital technology while aligning the province with neoliberal and globalization values.

Chapter two will introduce conceptual frameworks for understanding technology in relation to society: in particular, concepts of instrumentalism, technological determinism, substantivism and critical theory will be explored as a starting point for understanding the New Brunswick technological experience. In this chapter I will argue that the entire high-tech initiative is better understood as a neoliberal economic and social reform exercise. New Brunswick citizens were sold the idea of high-tech utopia as the only way out of the current economic malaise. Consistent with an interdisciplinary methodology, at this point I will introduce Foucault's notion of governmentality as a model to more fully explain the social, economic, and political reform.

Chapter three will establish that the discourse of technological progress, which is first introduced in the second chapter, begins to find its way into the public forum and eventually becomes part of the lexicon. Through extensive use

of public policy documents, speeches, and press releases I will demonstrate that a new world-view is shaped using political discourse and citizens are manipulated to embrace the inevitability of a post-industrial society. This chapter will also establish that this economic approach developed over a period of time and emerges at a very specific time establishing a willful embrace of technology as opposed to its inevitable appearance or adoption. Using the framework provided by governmentality this chapter will demonstrate that through the rhetoric of the post-industrial economy New Brunswick citizens begin inscribing themselves within the values of neoliberalism and globalization.

The purpose of chapter four is to demonstrate how public institutions and policies begin to reflect the new reality constructed through the language demonstrated in the previous chapter. The New Brunswick government continued to pursue high-tech employment, through contact centres, facilitated by the intimate connection between the New Brunswick Telephone Company (NBTEL) and McKenna's inner circle. In conjunction with this high-tech pursuit citizens are simultaneously conditioned to become active players in the new economy through various public policy initiatives including NB Works, Get Connected and Community Access Program. Finally, this chapter will establish that the media consistently, and willingly, reinforced this agenda.

Chapter five will reiterate the position that there was simply no sustained economic miracle delivered through the McKenna mandate. It will also reinforce the position that the McKenna initiative was more about public relations, and the

introduction of neoliberal reform, than it was about sustained economic growth. I will show that the ICT sector showed initial promise though it was essentially call centre jobs that were delivered by the mandate. Finally, brief comparisons will be drawn against similar postindustrial jurisdictions, Ireland and Massachusetts and further research will be suggested.

Chapter 1: Selective Economic Overview of New Brunswick

The purpose of this chapter is to provide a selective overview of the economic history of New Brunswick from the time of Confederation (1867) to the present. It is not the intent of this chapter to provide an in-depth assessment but rather to provide an overarching narrative of the economic history of the province in order to provide a starting point for understanding the economic climate that the McKenna government inherited upon taking office in 1987.

New Brunswick is a Canadian Province on the Eastern seaboard of the Atlantic Ocean. Bordered by the province of Nova Scotia to the East and Quebec to the West, the total area of the Province is approximately 73,000 square kilometers, with 85 percent of that land base being productive forest. Access to timber resources, proximity to the Atlantic Ocean, and mineral resources which include coal, copper, lead, tin, tungsten and indium have defined the New Brunswick economy as resource-dependent over the course of two centuries (Delottinville, 1994). These resources served New Brunswick well in the provinces' early history.

Donald Savoie (2001) explains that the New Brunswick economy “was once prosperous. It developed rapidly in the first half of the nineteenth century largely to meet British demands for timber and ships” (p. 16). Prior to Confederation, the resource economy continued to flourish, and, according to Savoie, even “up to 1850 New Brunswick prospered as part of the closed trading system of the British Empire. It sold over 90 percent of its exports in the British markets and was controlled politically from London” (p. 16). This closed trading system, based on the exploitation of natural resources, can be explained using staples theory developed by Canadian professor of

political economy Harold Innis. “In its simplest form the staples thesis assumed that the development of economic activity in Canada was driven by exploitation of natural resources” (Rea, 1991, p. 14). Staples theory contends that geographic, political, economic, and social situations are defined by the resource-dependent economy and this provides a framework for understanding New Brunswick’s developing socioeconomic condition. According to Innis:

Canada emerged as a political entity with boundaries largely determined by the fur trade. These boundaries included a vast north temperate land area extending from the Atlantic to the Pacific and dominated by the Canadian Shield. The present Dominion emerged not in spite of geography but because of it. (Innis, 1962, p. 393)

The dependence on raw natural resources has the potential to promote spectacular growth but also creates an unhealthy reliance on finite resources that can eventually prove problematic. Innis’ work demonstrates this pattern repeatedly.

According to staples theory, in the Canadian national context, the impetus for economic development in Canada began with the fish trade off the Atlantic coast. As the fish export market lost momentum, the fur trade displaced it to become the dominant economic driver, until the fur trade was displaced by timber and lumber trade. With each of these resources the intrinsic economic benefit is gained almost exclusively through the exportation of raw material. Eventually the dominant Canadian timber trade was replaced by wheat, first from Central Canada, and eventually Western Canada. The final national staple is the vast mining deposit in the Canadian Shield (Rea, 1991).

The staples theory can be applied to New Brunswick to demonstrate two principles. First, within a contained geographic area there are finite resources that can serve as staples, and when these resources are depleted an economic shift occurs. The case of New Brunswick can be likened to that of the larger Canadian economy as the shift occurred from export of fish, to timber and lumber, and eventually to mineral resources. Secondly, the logical conclusion is that eventually these finite resources become depleted and the economy must shift out of the resource sector. Additionally, because the entire economy is geared towards exportation of resources, the population can be ill prepared for economic roles that simply are not needed when resources cease to exist.

Resource dependency and the national economic policy of the Canadian federal government have played a pivotal role in shaping the New Brunswick economic experience for the better part of two centuries. The New Brunswick economy originated, and prospered, but was largely influenced unfavourably some argue, by the National Policy introduced by Sir John A MacDonal which encouraged a Canadian East to West trading pattern supported by significant tariffs on goods imported from the United States (Canadian public policy, 1975). This policy encouraged inter-Canadian trade while disrupting the natural Atlantic trade with the Eastern United States and it offers a stark contrast to economic policy of the late 1980's under the Canadian/United States Free Trade Agreement (FTA) which provides the economic context of the McKenna mandate.

Historically, the development of national economic policy has arguably worked to the detriment of economic prosperity in New Brunswick, and "In the long run the federal government's tariff, transportation, and monetary policies have worked to the general disadvantage of New Brunswick" (Thorburn, 1961, p. 16). Since Confederation, the New

Brunswick economy has rarely flourished, and instead of continuing to be a significant contributor to the national economy, is, instead regularly viewed as a supplicant of the national system. New Brunswick has been “on the receiving end of Ottawa’s equalization payments since they were first introduced in 1957” (Savoie, 2001, p. 7).

Frank McKenna began his mandate to govern New Brunswick after leading the Liberals to a sweep in the 1987 provincial election. This victory is commonly known as the ‘Sea of Red’, as the liberals won all 58 provincial seats for the first ever election sweep in the province. The Liberal victory created a unique situation in which no opposition could be officially voiced, giving the ruling party uniquely influential control. The state of the economy quickly became a focus for the newly elected Liberal Party and with some justification. Sociologist Joan McFarland (2009) describes the abysmal economic conditions and the subsequent fate of many New Brunswick workers early in McKenna’s first mandate:

Given the lackluster performance of the Canadian economy in the 1990s, and the erosion of jobs in New Brunswick’s traditional base of forestry, mining and fishing, the province faced a decade with 40,000 officially unemployed, 20,000 part-time workers seeking full time work, about 15,000 self-employed on the margins of the economy, and an estimated 30,000 discouraged workers outside the official labour market (p. 28).

The governing Liberals’ recognition of the ominous economic indicators is reflected in the “Toward 2000 Economic Development” strategy document that describes the following.

One in seven of our population living below the poverty level; 10 percent living on social assistance; two thirds of the heads of households on social assistance having less than a grade 10 education; 17,000 young people between the ages of 15 and 24 being unemployed; half the youths entering the labour force without completing their studies. (New Brunswick, 1993, p. 4)

This is the dire economic condition inherited by McKenna and this serves as the starting point for what would become know as the McKenna miracle.

McKenna recognized the unhealthy dependency on natural resource exploitation and the vulnerability it creates. This is reflected in a 1993 provincial policy document titled “Toward Self Sufficiency”, which states, “the natural heritage brings both strength and vulnerability. We are vulnerable from competition from newer, low-cost, economies and the economic impact of material substitution” (New Brunswick, 1993, p. 12). The Liberal government asserted that free trade, global competition, and dwindling resources created an environment that required a dramatic shift away from the resource economy.

The McKenna high-tech initiative was intended to steer the province away from its dependence on natural resource extraction and federal transfer payments by embracing a technologically driven economic agenda. The provincial telephone company, the New Brunswick Telephone Company (NBTEL), quickly became the centrepiece of this initiative. The importance of this union between the New Brunswick government and NBTEL cannot be overstated, as “ICTs were identified as a development priority by the provincial government (notably during the ten-years of the McKenna government, 1987-1997) and by the provincial phone utility, NBTEL, which played a modernizing role in the

provincial economy” (Wolfe, 2003, p. 17). Similarly, Demont argues the importance of NBTel within McKenna’s economic restructuring: “during the past 10 years, McKenna hitched his economic development policy to exploiting the information highway. He has made Bruncor, which owns New Brunswick Telephone Co. Ltd., the centrepiece of his strategy” (1997, p. 29). Perhaps McKenna himself best described the relationship between the telephone company and the province when he stated, “NBTel had technology others didn’t have, and the service standards were higher. NBTel sold themselves and the government sold them. We realized that we had a superior performer that gave us a competitive advantage, and we used it shamelessly” (Quoted in Lee, 2001, p. 185).

If New Brunswick was to embrace the knowledge economy and effectively transform itself, the traditionally monopolistic telecom company, NBTel, would need to play a prominent role. NBTel had been founded in 1888 and for the better part of its 100 years of existence had operated as a ‘plain old telephone services company’ (POTS). But the global telecommunications landscape shifted dramatically in the 1980’s as deregulation led to increased competition, forcing local POTS to innovate and evolve. By 1993 McKenna clearly understood the significance of NBTel’s evolution as he wrote, “NBTel is recognized as a national telecommunications leader whose aggressive marketing, competitive pricing and strategic alliances have helped propel New Brunswick’s vibrant telecommunications growth” (New Brunswick, 1993, p. 40).

The transformation of NBTel from a telephony services company to a recognized North American telecommunications leader provided the McKenna government with a head start in their attempt to capitalize on a high-tech economy. According to American

entrepreneur and philanthropist William Davidson, NBTel set immensely bold goals and implemented aggressive strategies to achieve them:

We went to the ends of the earth to find a telephone company that was transforming itself for the new era of online living. We only found one, in the most unlikely location --- New Brunswick, Canada. New Brunswick is a poor province, with much higher than average unemployment rates and lower incomes than the rest of Canada. Its largest industries have been more closely connected to a hunter and gathering economy than the information age. (Davidson, 2004, p. 18)

Davidson recognized NBTel as a global leader in the deployment of high-technology infrastructure and anticipated that this technological development could transform the province.

NBTel fully embraced this innovative goal and through its “Achieving 2000 Now” strategy it transformed the antiquated telephony service into “the first jurisdiction in North America to become 100% digital” (Brehl, 1994). This was a momentous achievement for a small telephone company on the fringes of the North American continent, and the renewed infrastructure paved the way for a decade of technological innovation. If the traditional axiom ‘as the forest industry goes, so goes New Brunswick’ was true for the majority of New Brunswick history it could now be said that ‘how NBTel goes, so goes New Brunswick’ became the axiom for the 1990’s. During this dynamic period “NBTel developed international recognition in the telecommunications industry as an artful deployer of advanced telecommunications technologies” (Wolfe, 2003, p. 17).

Crucial to this innovative period was the notion of the living lab and NBTel eventually trademarked this name for its process of innovation that originated out the Saint John office. The label was also used to describe a number of related processes, relationships, initiatives and even physical space during the 1990's. The LivingLab has been described as a “unique research and development centre that marries a traditional engineering lab environment with some marketing panache” (Campbell, 2010, pg. 1). In this case the lab was a physical entity in the NBTel headquarters in Saint John in which an actual living room had been recreated to allow the business to witness its research and development in action in a ‘real life’ home.

In other instances the LivingLab was used to describe the telephone company itself and the unique relationship it developed with telecommunications giant Northern Telecom (NORTel Networks). In this case the LivingLab described “NBTel [as] an opportunity for testing the limits of current technology with a willing partner.” (NBTel's LivingLab, 1997). Additionally, the province itself was described as a LivingLab for its ability to act as a test bed for innovative products and services through the conduit of NBTel. Economic developer David Campbell (2001) writes, “at its zenith, NBTel was churning out innovative divisions and talking about New Brunswick as the ‘LivingLab’ for new technologies.” (p. 1).

The “Living Lab” phrase was soon applied to the hotbed of high-tech research and development taking place in the province at large during this time period. “New Brunswick is a sort of LivingLab, we're finding that a lot of companies will come to do development, and if they don't come to develop, they'll come to test and experiment” (Mitham, 1998, p. 1). In 1997 NBTel's “development centre in Saint John hosted over

500 visitors, including representatives of Atlantic Bell in the United States and Japan's Nippon” (Mitham, 1998, p. 1).

Similarly, the relationship between New Brunswick and the broader global economy was described by the phrase. The LivingLab was NBTel's “innovations environment, where a product is researched and developed in New Brunswick first and then exported to global markets” (Foster, 1998). It showcased NBTel around the world as an example of how an innovative incumbent telephone company could catalyze regional development (Cavill, 1999). The lab and NBTel were able to be successful in the early to mid-nineties by capitalizing on the notion that place was much less important in the knowledge economy than it had been in the industrial economy. A geographic impediment had seemingly been turned into a positive selling point: “Geography is no longer a disadvantage. In fact, it works for us. As business is increasingly carried out electronically, we can be competitive while still enjoying the beauty, the lower cost of living, and the pace of life in New Brunswick” (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 9).

During the mid to late 1990's, the advanced communication infrastructure of NBTel and the aggressive campaign by the McKenna Liberals to entice high-tech firms to move to the province appeared to be successful. By 1999 NBTel had “established about ten spinoffs or affiliates ... to develop products in emerging areas” (Wolfe, 2003, p. 133). These high-tech spinoffs played a pivotal role in the early development of a potential ICT industry within the province. They covered a broad spectrum of the information and communication sector and included software firms (Innovatia, Genesys, iMagic), interactive services and applications (NBTel Interactive, HealthFutures, New

North Media), data processing services (Datacor), cellular mobility services (NBTel mobility), and systems integrations firms (MITI and Prexar, Wolfe, 2003).

Initially, the LivingLab and the cluster of NBTel high-tech spinoff companies provided an example of how the New Brunswick initiative was supposed to work, but, the McKenna initiative specifically focused on attracting call centres (contact centres) to the province and unfortunately, “what he brought, in the end was mostly call centres” (McFarland, 2009, p. 28, emphasis added). The quest to dominate the call centre market was arguably accomplished by 1996 when “the province [could] boast that it [had] become North America's call-centre capital, with companies from the Royal Bank to United Parcel Service (UPS) taking advantage of a fully digital telephone system and attractive government incentives” (Hamilton, 1996, p.1).

The meteoric rise of the call centre industry in the province can be directly attributed to McKenna, who teamed with NBTel on trade missions domestically and abroad to lure companies to invest in New Brunswick. The Premier himself became central to the task of changing New Brunswick's reputation as one of the worst places to do business in North America, and this is nowhere more evident than in his use of a personal toll free number, 1-800-MCKENNA. The number was a direct line to McKenna, specifically for businesses considering relocating to New Brunswick. However, even with a 1-800 number that promoted the province as ‘open-for-business’, the process of luring call centres to the province typically began with provincial representatives contacting external companies. To this end, the Premier set up a team that included representatives from both NBTel and the Liberal government. The team targeted call centres that might potentially relocate and attempted to “convince some

flunky to do a cost benefit analysis of setting up shop in New Brunswick” (Lee, 2001, p. 187). As Francis McGuire, Deputy Minister of Economic Development, stated, “It was so simple and people kept falling for it” (Lee, 2001, p. 187).

The formula developed by McKenna and NBTel initially experienced tremendous success. The industry saw unprecedented growth, from one centre in 1991 to approximately 110 centres with 21,000 workers in 2007 (McFarland, 2009). The call centre deals involved domestic, international, large, and small companies including the Royal Bank of Canada, Air Canada, Purolator Courier, Canadian Pacific Express and Transport, Camco Inc, and United Postal Service (UPS) to name just a few. Even at this early stage McKenna had to defend the transient nature of this type of employment: “Its a choice between a service sector job or nothing. We are taking every job we can get” (quoted in Lee, 2001, p. 186). The McKenna initiative was to use the technological advantage provided by NBTel to lure call centres to the province while at the same time educating the populace and preparing them for employment in the knowledge economy. The proposed result was to transform the entire economy from an industrial, resource-based economy, to a knowledge economy.

The embrace of the ICT industry represented a radical strategy for a province that had traditionally been dependent on agriculture, forestry, fishing, and mining as the main industries (Boudreau, Toner, Tremblay, & New Brunswick and Atlantic Studies Research and Development Centre, 2009). Upon McKenna assuming leadership of the province in 1987 it had become abundantly clear that the traditional economy, and the system of Confederation, had never served New Brunswick particularly well. While the pre-Confederation New Brunswick economy was extremely prosperous, Savoie (2001)

argues, “a strong federal government has never been in the interest of New Brunswick or Atlantic Canada” (p. 190). He argues this system has directly led to a lack of economic prosperity ever since by using traditional metrics to explain economic development: “there are many factors that can be used to explain a regions economic development including; resource endowment, proximity to markets, the quality of the workforce, the urban rural structure etc.” (p. 16). These factors are entirely valid in a traditional economic environment: however, McKenna proposed a radical departure from that economic system. To succeed he would need to overcome the obstacles of the federal system of Confederation while addressing the issues facing traditional resource-based economies.

McKenna approached economic development in a much different manner than previous governments. Instead of focusing on strengthening traditional industries such as forestry, fishing and mining, the Liberal government set about capitalizing on the strength of NBTel’s advanced telecommunications network, availability of labour (due to high unemployment), and a bilingual work force, to recreate New Brunswick as the North American call centre capital. This desire to transform the New Brunswick economy, and subsequently New Brunswick society, was consistent with a number of interrelated ideas concerning post-industrialism, globalization and neoliberalism. The next chapter will unpack these terms and also introduce technological and social theory that can help explain New Brunswick’s high-tech adoption and social and political transformation.

Chapter 2: Theory

Several terms became common in describing the economic and social climate of the latter part of the 20th century. These terms are the post-industrial society, globalization, and neoliberalism and we must unpack them before moving on. Subsequently, I will argue that for the McKenna mandate, a particular assumption about technology and social, political and economic development (technological determinism) was the basis of government discourse for the support of the envisioned neoliberal global economy. Finally, I will introduce the concept of governmentality, which provides a better framework for explaining how the New Brunswick government tried to shape the economy during the period we are discussing.

Technology and Changing Societies

Many argue that the wave of technological progress that has taken place since the introduction of the steam engine has brought about transformational changes to Western societies. From this perspective, we can understand contemporary changes to the high-tech economy through an examination of prior social shifts brought on in part by technological innovation. For example, building on his theory of economic staples, Harold Innis argued that communication technologies inherently contain biases that play a key role in shaping society. A predominately oral society such as ancient Greece spread ideas, knowledge and culture primarily through spoken language. This bias created an ability to extend culture over an extended time period though the society though, Innis argued, limited geographical expansions. A literate society such as The Roman Empire had a space bias, Innis argued, which allowed the empire to extend over large geographic distances due to the portability of written text. Innis essentially held a deterministic view

that communication technology created the ability to reshape the physical and temporal boundaries of societies and define culture¹.

This theory of media bias became central to the ideas of Marshall McLuhan, who stated that his seminal work, The Gutenberg Galaxy, was simply “a footnote to the observations of Innis on the subject of the psychic and social consequences, first of writing then of printing” (Innis, 1951, p. 1). In 1962, the acclaimed media theorist prophetically wrote, “the new electronic interdependence recreates the world in the image of a global village” (McLuhan, 1962, p. 31). With this bold statement McLuhan predicted that the impending prevalence of electronic digital communication would essentially eliminate the boundaries of both time and space, thus creating an environment in which citizens could connect, collaborate and innovate independent of physical location. Just as the industrial revolution ushered in the industrial age, displacing agricultural economies, the electronic revolution created an electronic age. McLuhan’s global village had the ability to redefine society and dramatically alter local economies, and decades later became the central idea New Brunswick would employ in attempting revive the provincial economy. In the New Brunswick case study I will demonstrate that this idea of the ‘death of space’ can be understood to have tremendous liberating potential, but the idea also has the potential to lead to the downfall of such locations.

¹ The significance of introducing Innis and media bias is important to this thesis for illustrating the point that technologies have a significant impact on society without being noticed in some cases. This provides some cohesion with Borgmann’s device paradigm that will be introduced shortly. Elisabeth Eisenstein provides a much more robust, and nuanced, understanding of the impact of the printing press upon society that further illustrates this point.

Just as McLuhan posited a shrinking world through his articulation of the global village, Friedman (2005) insists time and space are made irrelevant in an electronically connected world stating, “the world is flat” (p. 8). Friedman goes on to assert that this electronic connectedness provides a unique opportunity for innovators to connect and collaborate and quotes Bill Gates to exemplify the assumption of increased opportunity for individuals in this flat world.

Thirty years ago, [Gates] said, if you had a choice between being born a genius on the outskirts of Bombay or being born an average person in Poughkeepsie (a city between New York City and Albany), you would take Poughkeepsie, because your chance of thriving and living and decent life there, even with average talent, were much greater. But as the world has gone flat, Gates said, and so many people can plug and play from anywhere, natural talent has trumped geography (Freidman, 2005, p. 194).

The proliferation of electronic communication via the telephone, the creation of national railway systems, and the ubiquitous presence of modern mass media systems such as radio and television have all held the promise to modify the relationship between distance and time. The world’s new ‘flatness’ makes place irrelevant in a post-industrial society where work involves the creation and distribution of information rather than physical goods.

The global village, like the bias of communication, is rooted in technological determinism in that the characteristics of electronic media set the conditions for social change. In this case the speed at which information can be transmitted or communicated

breaks down the traditional barriers of time and space thus limiting or even negating the impact of both. McLuhan is only one of the mid 20th century scholars who witnessed a changing society and it is evident that his voice is part of a larger chorus. These implied benefits of an interconnected global village are the driving force behind McKenna's drive to transform New Brunswick and are at the root of what came to be known as the post-industrial or knowledge-based society.

Post-Industrial Society

The notions of the post-industrial society and the global village predated the eventual commercialization of the Internet (late 1980's) by 20 years. These ideas begin to take root prior to the notion of globalization, the 'dot bomb' crisis of the late 1990's, and the existence, or even the idea, of cyberspace. In 1962, Fritz Machlup noted, "as early as 1958 the knowledge industry represented 29% of the US gross national product" (p. 316). This landmark observation marks the beginning of what would eventually become variously referred to as the information, or post-industrial society (Bell, 1973; McLuhan 1962; Porat, Rubin, & United States, 1977; Toffler, 1980; Touraine, 1971).

In 1970, sociologist Daniel Bell coined the term 'post-industrial society' to refer to the rapidly changing social and economic conditions occurring in advanced industrial nations since the mid-twentieth century. To establish his position Bell traces a line through both pre-industrial and industrial economies. A pre-industrial society, he suggests "can be characterized as a game against nature" (Bell, 1973, p. 126). In this pre-industrial world "primary sector occupations and industries (hunting, foraging, farming, fishing, mining, forestry) dominate the economy.... and the level of economic activity varies according to the seasons and global fluctuations in demand" (Bell, 1973, p. 126).

This pre-industrial economic period is of particular interest to a region such as New Brunswick that has traditionally depended on the exploitation of natural resources as a source of wealth. The pre-industrial model played a significant role in development of the Canadian economic and political landscape, as articulated through Harold Innis' staples thesis, outlined in chapter one. Again, "the essence of staples thesis is that development of many nations, or geographic areas, has been led by the expansions of export sectors and in particular the export of natural resources" (Southey, 1978, p. 547). Innis effectively argued that Canadian economics and politics were shaped through the extraction and exportation of raw materials. Because the extraction of natural resources has played a central role in the economic development of New Brunswick the potential shift to a knowledge-based economy was even more radical.

As discussed previously, the pre-industrial or agricultural economy eventually gave way to an industrial economy, fuelled by the industrial revolution, which can be categorized as "economic activity [that] focuses on the manufacturing and processing of tangible goods" (Bell, 1973, p. 109). Key figures in the industrial society are the 'semi-skilled' factory worker and the highly educated engineer who together enable factories, mills and processing plants to function. American industrial cities, such as Pittsburgh and Detroit, were formed out of this industrial economy with Pittsburgh long known for its steel producing plants and Detroit for the mass production of automobiles. These types of industrial cities are facing challenging times as manufacturing declines across advanced industrial economies.

Bell (1973) postulates finally that the industrial society will eventually be replaced by the post-industrial society, which is "dominated by the service sectors and

professional and technical occupations. It is marked by the centrality of human relationships and ‘intellectual technology’, based on information and information and computing technology (ICT), which ‘rises alongside of machine technology’ (p. 109). Bell’s definition implies a change in individuals’ relationship to technology and suggests that a post-industrial society is marked by a shift in human relationships with technology as well.

Deterministic assumptions about technology are implicit in the notion of a post-industrial society; technology is presumed to solve all matters in a “society in which experts, including technical experts, [offer] the hope of solving techno social problems” (Higgs et al., 2000, p. 40). The post-industrial society sees diminished reliance on traditional economic forces, such as natural resources and human capital, while a significant rise occurs in the service sectors and technical occupations. In this postindustrial society, “society now lives by innovation and growth, and it is theoretical knowledge that has become the matrix of innovation” (Bell, 1973, p. 15).

Peter Drucker (1959) first announced the arrival of the ‘knowledge worker’ and Fritz Machlup (1962) first suggested that the knowledge economy was becoming an important sector of the American economy since 1958. Subsequently, Alvin Toffler (1980) describes the changing social and economic structures as ‘the third wave’ with first two waves being the agricultural economy enabled through tools working the land and the industrial age facilitated through the industrial revolution. Modern scholars such as Richard Florida (2002) describe this change as ‘the rise of the creative class’, while Thomas Friedman (2005) suggest that world is now flat. For the remainder of this thesis it is Bell’s (1973) encompassing definition of the knowledge society that will be used:

In an industrial society the key issue is control of capital plant and machinery and it is the business class that controls these, exercising political power through indirect influence on governmental decisions and reproducing itself through direct inheritance, patronage and educational inheritance. In a post-industrial society the key resource is knowledge and this is under control of the scientists and researchers influencing the political process by being engaged and incorporated in governmental decisions and reproducing itself largely through education (p. 359).

The notion of a post-industrial society has a long academic history and by demonstrating the various meaning attached to this idea it is possible to see it as an idea that a politician, such as McKenna, could adopt for specific purposes.

Bell did not envision the postindustrial society as eclipsing the industrial society instead both would exist in a stratified relationship just as industrial and agricultural societies. To properly define the coming post-industrial society Bell established five dimensions that signified the transition from an industrial society to a post-industrial society. The five dimensions of the post-industrial society are: 1: The creation of a service economy; 2: The pre-eminence of the professional and technical class; 3: The primacy of theoretical knowledge; 4: The planning of technology; and 5: The rise of new intellectual technology (Bell, 1973). On their own, each of these conditions is insufficient to completely transform the society yet as a whole they represent a shift from an industrial to a post-industrial society. While the New Brunswick initiative successfully met the first criteria it failed to meet the remainder.

The idea that technological progress is the primary force in societal change (technological determinism) is intrinsic to the concept of the postindustrial society that

Bell describes. Similarly, Toffler describes the ‘coming’ of the third wave of societal change from an industrial economy to a knowledge or post-industrial economy. The language used to frame the societal transformation is significant because it describes the shift as an inevitability brought on by technological progress. Finally, the death of time and space was presented as an inescapable result of technological determinism. These related, and competing ideas, become central to the discourse regarding New Brunswick’s economic development during the McKenna mandate.

Globalization and Neoliberalism

The creation of a post-industrial, or knowledge economy, was the focus of the McKenna mandate though it is two closely related concepts that provide the vehicles for this adoption. Joan McFarland (2009) who, when speaking on the McKenna mandate, argues that an “examination of the discourse of the period shows a very particular positioning vis-à-vis globalization and neoliberalism. It is one adopted by a have not province as a kind of desperate economic development strategy” (p. 26). To understand this economic repositioning it is necessary to first unpack the terms neoliberalism and globalization.

Neoliberalism has been defined as “the ideological and practical rejection of the Keynesian welfare state and its replacement with free-market doctrine and practices” (Naiman, 2004, p. 215). Neoliberal policies return services traditionally provided by the state to the free market system. Neoliberal practices have been prevalent in advanced Western economies since the 1970’s and this is evident through increased deregulation of industry, privatization of state run institutions, and an increasing number of public-private partnerships. The heart of the neoliberal agenda is the idea that the self-regulating

market “is the main engine powering the individuals rational pursuit of wealth” (Steger & Roy, 2010, p. 2). Political economist Hugo Radice (2005) offers this encompassing definition of neoliberalism:

Within the overarching ideology of neoliberalism, the norms of government for capitalist nation-states have been organized around the ideology of international competition. The message for workers is that employment and security can only be guaranteed by winning world markets on the basis of low costs, and that since only the private sector is efficient in doing this, capitalists must be enticed to invest by the prospects of high profits and low taxes. This is the domestic politics of ‘there is no alternative’: in every country, the same arguments are used to cut welfare and to privatize and deregulate labour markets. This is the new form taken for the central purpose of the capitalist state- to manage labour on behalf of capital (p. 96).

Neoliberal advocates promote self-reliance and entrepreneurship in an attempt to minimize dependence on the state for providing traditional social safety net programs such as welfare and employment insurance. The 1993 Liberal self-sufficiency agenda is ripe with neoliberal language and policies consistent with these neoliberal values and ‘no alternative’ politics. McKenna proposed that this new reality was not simply a choice for citizens rather it had been thrust on them in part because of increased globalization.

Globalization can be described as “the widening and deepening of the international flows of trade, capital, technology and information within a single integrated global market” (Petras & Veltmeyer, 2001, p. 11) and is often attributed to a result of technological evolution. However, Petras and Veltmeyer argue that globalization may

have a prescriptive as well as a descriptive definition. From a prescriptive point of view globalization is “the network of institutions that define the structure of new global economic systems [...] viewed not in structural terms, but as intentional and contingent, subject to the control of individuals who represent and seek to advance the interests of a new international capital class” (Petras & Veltmeyer, 2001, p. 12). This prescriptive definition suggests that globalization does not simply arise out of a technological deterministic model but instead is created through mechanisms of control and power to enhance interests of the ‘international capitalist class’. Instead of simply reacting to globalization, states are instead creating and embracing it; “far from being the victims of globalization, states are often better seen as the authors of it” (Panitch, 2003, p. 17).

Through a series of neoliberal and globalization policies the New Brunswick government fully accommodated large corporations in the attempt to foster a knowledge-based economy. Such corporate accommodations included a cost effective labour force, tax incentives for relocation, a hybrid public-private relationship between the government and the provincial telephone company (a major high-tech players in the New Brunswick economy), a restructuring of higher education and emphasis on lifelong learning, and the encouragement of entrepreneurial activity consistent with neoliberal policies of free market enterprise (McFarland, 2009).

The state, in this new globalized, flattened context, “acts as a facilitator and catalyst by changing its policy regime to meet the needs of global capital” (p. 26). Instead of simply asserting that New Brunswick used neoliberal policies to accept the ‘inevitability’ of globalization, this study will demonstrate that the self-sufficient society and the global economy were used as mechanisms to persuade New Brunswick citizens to embrace

neoliberalism while creating an inviting economic environment to encourage the globalization process. This neoliberal adoption occurs in spite of the fact that globalization potentially undermines the very programs and initiatives embraced by the McKenna Liberals. In the end, McKenna simply gained a head start by taking any job instead of nothing and these jobs happened to be in the high-tech sector. This contradiction is an important point; McKenna tried to “ride” the third wave. He attempted to create a ‘self-sufficient society’ that also would function as a node in a globally connected network and it is this juxtaposition that ultimately proved unsustainable.

Beginning in the early 1990’s Premier Frank McKenna began a process to successfully lure multiple high profile contact centres to the province and this immediate success was well publicized. The media dubbed New Brunswick’s “successful economic renaissance” (Williamson, 1999) the ‘McKenna miracle’. This miracle involved “preaching free trade, employment growth and deficit cutting,” as “he [McKenna] led New Brunswick on a crusade to revive the have not province” (Howes, 1999). Both the premier and the province attracted “national attention for what is widely seen as its successful record in attracting firms and jobs to the province” (Milne & University of Toronto, 1996). This period marked the beginning of New Brunswick’s attempted transformation from a resource economy to a knowledge economy and also marked the beginning of a transformation from the welfare state to an era of neoliberalism.

The challenges facing New Brunswick in the latter stages of the 20th century were consistently articulated as an inevitable consequence brought on by ubiquitous modern technology. Government initiatives and policy documents, both provincially and

nationally, insist that the global economy had been thrust upon citizens and a failure to react would be detrimental. Yet, rather than simply reacting to the inevitability of a new global economy, the McKenna initiative instead attempted to opportunistically reposition New Brunswick to take advantage of an advanced telecommunications service provided by the New Brunswick telephone company by imposing a neoliberal agenda on the provincial economy to create a favourable business environment and to create a corresponding work force to fuel the machine of the global high-tech economy.

Governmental policy was changed, the education system was altered, and tax incentives were offered to firms choosing to relocate business operations to New Brunswick. For McKenna, these are the type of reforms required to create a knowledge economy as “the full realization of information as a commodity requires the institutionalization of a complex apparatus that relies on an interconnecting set of legal, political, cultural, social and economic conditions (i.e. mass advertising, branding, celebrity endorsements, spread of franchise, and strengthening of intellectual property rights)” (Adair, 2010, p. 259).

Technology alone does not have the capability to transform the economy; instead, concentrated efforts on the part of governments, industries, and individuals over extended periods of time are required. The New Brunswick experience is marked by a particularly cohesive effort by the government, business, and higher education to create a new economic environment while retraining the existing workforce for a specific set of high-tech roles. While technology played a key role in this transformation; “technology operates within a complex social, economic, political and cultural matrix” (Smith & Max, 1994, p. 12).

Even so, this particular administration chose to encourage the development of a technology sector to create a new kind of economic base that would be easier to sustain than the traditional resource and manufacturing economy of the region. To gain a better understanding of the New Brunswick experience it is critical to observe the case not solely as a result of technological change but as group of competing and collaborating factors that come together to create a unique environment. As Langdon Winner (1986) argues “what matters is not the technology itself, but the social or economic system in which it is embedded” (p. 20). The next section of this chapter will explore a number of technological theories that help explain societies relationship to society. These theories provide an understanding of New Brunswick’s particular adoption though finally I will demonstrate that these theories are insufficient in fully explaining the adoption, before turning to governmentality.

Technological Theory

A brief examination of conceptual theories for understanding the relationship between technology and society reveals four major frameworks: instrumentalism, determinism, substantivism, and critical theory (Feenburg, 1999). Within these frameworks technology can be viewed as either autonomous or human controlled while also be considered value laden or value neutral. The table below demonstrates this configuration.

| Technology Is: | Autonomous | Human Controlled |
|-----------------------|-------------------|-------------------------|
| Neutral | Determinism | Instrumentalism |
| Value-laden | Substantivism | Critical Theory |

While instructive for this thesis, each framework contains identifiable limitations in the explaining the New Brunswick case study.

Instrumentalism

Postman (1993) argues that it was Francis Bacon (1561-1626) who “first saw the connection between science and the improvement of the human condition” (p. 35). The time period between Thomas Watt inventing the steam engine in 1765, and ushering the industrial revolution, through the 21st century “has not seen a decade pass without the invention of some significant machinery” (Postman, 1993, p. 40). This continual technological improvement has fundamentally restructured the relationship between society and technology. Dependency on technology in contemporary society is so profound that “to write that our lives are radically altered by contemporary technology is at once to admit everything and nothing” (Higgs et al., 2000, p. 1). Indeed modern life is so intertwined with technology that to separate ‘the good life’ from the use of technology is seemingly impossible.

Instrumentalism sees all technology as value neutral and through this lens all technology is regarded as a means to end. Technological innovation is often viewed as synonymous with human progress towards a better world and improved human condition and that “modern sciences provides principled explanation and modern technology provide effective solutions of the problems that have troubled the human race from its beginning” (Borgmann, 1984, p. 7).

According to the instrumentalist position, the liberating power of technology is

powerful and; according to Higgs, Light, and Strong (2000) “people believe that that technology has removed and can remove much, if not all, of the misery and toil that have plagued the human condition. Technology can reduce or eliminate darkness, cold, heat, hunger, confinement and so on” (p. 27). Science and technology have the distinct capability of overcoming any obstacle to mankind with “promises not only to disburden us from of our everyday hardships but also more importantly to make us happy” (Higgs et al., 2000, p. 27). The instrumentalist viewpoint that technology can be controlled, directed, and purposed to better the human condition has been widely held for centuries. Technology is reduced to a tool.

However, instrumentalism is limited in its usefulness in explaining how individuals and society may be transformed by the introduction of technology. Even simple technological adoption has the effect of changing behaviour and it is clear in the New Brunswick case that a significant transformation occurred with the introduction of digital technology.

Technological Determinism

As technology is disentangled from human relations it becomes possible to see it not simply as the most effective solution to a particular problem but as a determining force. This is the position of technological determinism. As political scientist, and technological theorist, Langdon Winner (1986) states “the invention, design, or arrangement of a specific technical device or system becomes a way of settling an issue in the affairs of a particular community” (p. 22). When discussing technological determinism it is important to note that technology has a broad definition that clearly

includes modern information technology devices such as personal computing devices and mobile phones but is certainly not limited to these specific types of technology; media theorist Neil Postman (1993) includes statistics, polling data and bureaucratic forms, and “any systematic and repeatable technique that cause people to constrain their thinking about the world”(p. 30). Philosopher and technological determinist Jacques Ellul (1964) calls these ‘invisible’ technologies ‘techniques’. Techniques are not limited to machines and technology but include procedures used to attain a specific end.

Through a technological determinist lens the technological path is unalterable and directed through technological evolution. This view of technological progress leaves little room for human agency; instead technology and technological progress are seen as primary agents in shaping the world. Technology can be seen as instrumental in shaping the economic system, the political arena, and exerting profound influence over personal lives. Through this lens technology plays a critical role as a cultural, political and economic force and is so influential as to be “an encompassing and irresistible force” (Borgmann, 2006, p. 353)

The technological deterministic argument is not strictly a binary proposition. Rather there exists a gradient from hard to soft determinism. The effect of human agency decreases along this gradient, which ranges from soft determinism (effective human agency) to hard determinism (little effect). Hard technological determinists argue that technology is the primary force that ultimately shapes society and that human agency plays a very minor role. In fact, “technological determinists argue that all new technology is the primary force of social change and that technology is the foundation for how all aspects of our society are structured” (Baldwin, Perry, & Moffit, 2004, p. 254). On the

other hand, soft determinists locate technology in a far more complex system in which technology plays a diminished role and human agency a greater one (Smith & Marx, 1996, p. 7). Further, technology follows a predictable, traceable path and technological determinism “comes in two flavours, pessimistic and optimistic” (Borgmann, 2006, p. 353). An optimistic deterministic viewpoint claims that technology will offer solutions to the most contentious issues facing humankind while the pessimistic deterministic argues that it is precisely technology that has created the same set of issues. It is the optimistic technological deterministic viewpoint that would eventually shape the vision for New Brunswick high-tech initiative.

Karl Marx (1963) succinctly summed up the position of technological determinism in relation to social order; “the windmill gives you the society with the feudal lord, the steam mill, society with the industrial capitalist” (p. 192). Marx’s view claims a direct causal relationship between technology and social order. According to economist Robert Heilbroner (1967) “that machines make history in some sense -- that the level of technology has a direct bearing on the human drama -- is of course obvious” yet his position is a soft deterministic approach as he also concedes “[technologies] do not make all of history” (p. 335).

Marx argued that the windmill produced the feudal system and ushered in industrial revolution creating a very different society through the development of the factory system. Centralized production brought citizens from rural areas into urban centres and this massive migration substantially altering individual sense of time, place, and identity. No longer was work governed by sun up and sun down and no longer were the seasons of the year paramount in determining what work needed to be done. Narratives such as

Marx's feudal system and the origin of the industrial revolution appear to give strength to the deterministic argument. Indeed "the structure of such popular narratives conveys a vivid sense of the efficacy of technology as a driving force of history: a technical innovation suddenly appears and causes important things to happen" (Smith & Marx, 1994, p. 10).

Technological determinism has largely fallen out of favour with historians, sociologists and communication scholars; however, my intention in bringing it into this discussion is to demonstrate the pervasiveness of deterministic language in public policy documents; deterministic discourse becomes an essential tool in shaping public opinion, and thus public policy, throughout the McKenna mandate. Technological determinism is not capable of explaining the willful transformation that took place under McKenna but deterministic language is consistently used to convince the public to support technological adoption.

Substantivism

Closely related to determinism, substantivism argues that technology operates according to its own logic and technological evolution occurs at the expense of humanity. This variant in deterministic thought places human beings in a position of reacting to the changing technological landscape that they cannot control. Instead, when confronting technology, "human beings have to adapt to it, and accept total change" (Ellul, 1964, p. 136). Perhaps the most influential substantivist statement concerning the impact of technology on modern society is Martin Heidegger's short essay "On Questioning Technology". In this essay Heidegger (1977) argues that citizens are no longer able to opt for or against the adoption of technology: "everywhere we remain unfree and chained to

technology, whether we passionately affirm or deny it” (p. 11). Human agency is relegated into irrelevancy and instead of controlling, directing and manipulating technological progress citizens attempt to obtain “the right relation to technology” (Heidegger, 1977, p. 313).

To better understand the relationship humankind has with technology within this deterministic model, Heidegger first asks us to consider a hydroelectric dam set on the Rhine River as compared to a traditional windmill. In the case of the hydroelectric dam, the Rhine is reduced to a mere resource providing adequate water pressure to successfully turn the hydroelectric turbine. The power of the water flow has been commodified as a result of technological progress, while the resulted generated power is likely used to operate other technology. Unlike the windmill, which operates in a harmonious relationship with nature, the hydroelectric dam reduces the power of the river to a “standing reserve” (Heidegger, 1977, p. 322). The ‘standing reserve’ is a quantifiable raw material that is to be used in technological processes. Artifacts are simply reduced to their useful quality such that “the tree trunk, reduced to its primary quality of roundness in becoming a wheel, loses its secondary qualities as a habitat, a source of shade, and a living, growing member of its species” (Feenburg, 1999, p. 204). These standing reserves become part of a larger set of interlocking mechanisms in an inseparable myriad of innovation. Each mechanism is dependent on a plethora of other mechanisms that enable the entire system to function.

According to Heidegger (1977), through the process of enframing, all artifacts are reduced to such standing reserves. Technological progress “forms a culture of universal control” in which “nothing escapes it, not even its human makers” (Feenburg, 1999, p. 3).

As Ellul (1964) bluntly describes, technology reduces the human being to being “a slug inserted into the slot machine” (p. 135). The technology of language serves to reinforce this position, as it is not uncommon to view citizens as ‘human resource’ or ‘human capital’ who simply play a role in a modern knowledge economy dominated by electronic communication technology. Substantivism is unable to account for neither willful adoption of neoliberal principles nor the embrace of a globalization agenda in the New Brunswick case.

Critical Theory

Finally, critical theory of technology shares traits of both instrumentalism and substantivism by offering that technology can be humanly controlled although it is laden with intrinsic values. It provides an understanding that technology not only exists within society but also exerts influence upon the political and economic systems. This position allows human agency to provide direction for how technology is implemented while acknowledging that society is altered because of this introduction (Feenburg, 1999). Perhaps a helpful illustration of the critical theory viewpoint can be made through invoking a standard instrumentalist view of guns in society. An instrumentalist response often heard regarding gun control is; “Guns don’t kill people, people kill people”. This view that asserts that technology, in this case a gun, is simply means to an end while ignoring the social ramifications of such a tool. A critical theory approach finds a very different society is created by the introduction of guns thus exposing the underlying values contained within the technology.

Feenburg argues that we can act on technology through democratic processes and exert controls while acknowledging these intrinsic values (1999). Of course, substantive

theorist such as Ellul or Heidegger would counter that we are not capable of recognizing technological biases and that control over technology is simply false illusion. Critical theory extends the discussion by allowing for the possibility of human agency to direct, at least in part, technology's relationship within society.

Exploring the history of modern consumer products can highlight this relationship and can help explain modern societies unwavering faith in technological progress. The 20th century saw the creation of numerous consumer products designed to provide a higher quality of life to mass society. The electric washing machine, for example, liberated consumers from the arduous task of washing clothes by hand; the automobile changed the mode of transportation, while television provided education and entertainment within the confines of the home.

By the mid 1940's, in North America, factories were churning out a multitude of consumer products ready for purchase by a willing public. However, this purchasing public did not simply exist prior to the introduction of the consumer society; it had to be created through the mass media. The mass audience, of radio, cinema, and then television needed to be convinced that to live the good life they required consumer goods such as televisions, washing machines, and automobiles. The mass media played a key role in convincing the public that in order to live a good life it was essential to have these types of technologies and "from the early 1900's onward, advertising agencies sold the public on the idea that the latest advances in technology brought not only immediate personal gains but also social progress" (Smith & Marx, 1994, p. 1). These technologies became cultural goods essential to personal identity creation and achievement of status and German sociologist, Theodor Adorno, refers to this constructed relationship as the culture

industry. Adorno and Bernstein (1991) argue that “the commercialized production of cultural goods has become streamlined and the impact of popular culture upon the individual has concomitantly increased” (p. 137).

The creation of this culture industry fundamentally alters the relationship with technology as “the commercial character of culture causes the difference between culture and practical life to disappear” (Adorno & Bernstein, 1991, p. 53). The system becomes a closed loop in that technology is used to produce consumer goods while mass media, again structured around technology, is used to produce an appetite for those very goods. No longer is technology used, purchased, or designed out of necessity for a higher quality life. Carol Pursell (1995) suggests, “many modern ‘needs’ are themselves inventions, the product of an economy that stimulates consumption so that it can make and market things for profit” (p. 40). Modern dependence on technology has become so great that “we have come to embrace a vision of the good life that is inextricably linked to the technologies that shape our everyday life” (Higgs et al., 2000, p. 27). Instead of technology freeing our time for greater pursuits, “technology frees us up for more technology” (Higgs et al., 2000, p. 28).

This disassociation of the device from the social context is what Albert Borgmann refers to as the device paradigm; he uses central heating as a prime example. Household heating used to be achieved by using a central fireplace around which the family could gather. Apart from cutting trees, collecting firewood, and cooking, gathering around the focal point of the stove was central to the social cohesion of the family unit. Central heating provides the same technical result as the fireplace (*the family home is properly heated*), but the social cohesion built into the focal point of the hearth is simply lost. This

is the device paradigm. As users of modern technology, “we become disengaged from things and each other -- our social life becomes mediated through a commodity culture” (Higgs et al., 2000, p. 30). Borgmann (2006) also notes "information technology is currently the prominent and most influential version of the device paradigm" (p. 352).

Exploring the notion of the device paradigm and the prevalence of technology in the 21st century is important to this thesis for a couple of distinct reasons. Firstly, the device paradigm argument demonstrates that technology cannot exist separately from human relationships and instead plays an intimate role in both facilitating and potentially harming these relationships. This pervasive role is often overlooked, leaving society vulnerable to manipulation through the use of tools, techniques, and technologies.

Critical theory is able to partially explain the New Brunswick adoption of technology by acknowledging that technical adoption while also establishing that technology is infused with human values. However, critical theory falls short in providing a comprehensive explanation of the mechanisms by which the populace is engaged in the technological adoption process.

Interdisciplinary Approach: Governmentality

This chapter has presented four distinct, although related, frameworks for understanding modern technological adoption though each framework falls short in cohesively explaining how New Brunswick society fundamentally shifted to an era of neoliberalism and globalization under the guidance of Frank McKenna. To fully understand this shift a sociological perspective is also necessary and at this point we turn to governmentality. Foucault’s notion of governmentality was developed over the course of a series of lectures given at the Collège de France in 1978/1979 and can be understood

in the broad sense of techniques and procedures for directing human behaviour and shaping the field of possible actions (Foucault, 2008). Thus, governmentality provides the framework for understanding the New Brunswick neoliberal shift by portraying political action as a conscious and reflective while reframing technology and the New Brunswick experience as part of a social, economic, political and educational matrix. This provides a more nuanced narrative and, as Lemke (2002) argues, “by coupling forms of knowledge, strategies of power and technologies of self it allows for a more comprehensive account of the current political and social transformations, since it makes visible the depth and breadth of processes of domination and exploitation”. This framework makes it possible to identify how citizens inscribe themselves with neoliberal values consistent with the high-tech globalization agenda.

Using governmentality to critique New Brunswick’s neoliberal technological adoption is instructive because it identifies “not only direct intervention by means of empowered and specialized state apparatuses, but also characteristically developed indirect techniques for leading and controlling individuals” (Lemke, 2002). By overcoming the limitations of technological theories presented earlier, governmentality is capable of identifying techniques used to persuade independent autonomous actors to accept the transformation through self-governing.

That governmentality conditions autonomous actors to self-govern in accordance to prescribed objectives is closely related to Gramsci’s notion of hegemony although there is distinct, although subtle, difference. Similar to the governmentality model, Gramsci argued that “powerful groups do not necessarily impose their values on less

powerful by the use of direct force” (Danaher, 2000). However, hegemony contends that less powerful groups willfully accept imposed conditions through a tacit acceptance of a power relationship between such groups. This power relationship involves “the construction of a whole lived reality such that the existing political, economic and social structures would be taken for granted by the mass of the people, seen as common sense” (Gunn, 2006). Alternatively, Foucault and governmentality contend that the production of truth (Foucault, 1991) through quasi-scientific rational, or technique, that is used to convince citizens to self-govern. It is through governmentality that we may understand the shift from the welfare state in New Brunswick precisely because it is possible to trace the creation of the production, first through a pronounced shift in language and then through a change in public policy and institutions.

Just as Thomas Kuhn argued that science experiences paradigm shifts, which fundamentally alter scientists’ understanding of the natural world, philosopher Michael Foucault argued that culture and society undergo similar shifts. Within a scientific paradigm, collective thought is shaped by the accepted set of beliefs shared by scientists. When a paradigmatic shift occurs the beliefs held within the old paradigm are incompatible within the new paradigm. These paradigm shifts are revolutionary, not evolutionary, and the generally accepted view of the world is fundamentally altered after they occur (Kuhn, 1962). The shift from the Newtonian physics paradigm to an Einsteinian relativist paradigm is the most commonly cited example of such revolution and a Newtonian view of the universe was simply incompatible once the idea of relativity had been introduced.

Foucault approached the social sciences from a similar perspective to Kuhn and the physical sciences. Using his archeological approach, Foucault argues that societies have undergone a number of paradigmatic, or what he refers to as ‘episteme’, shifts (Foucault, 1971). An episteme shift can be understood as the unconscious organization of principles, how we make sense of things, and are “characterized by institutions, disciplines, knowledge, rules and activities consistent with those world views” (Danaher, 2000). In economics, the progression from a laissez fair economic system to the adoption of Keynesian economic policy and the development of the welfare state represent such an episteme shift. Building on Foucault, Nikolas Rose argues that beginning with Reaganism and Thatcherism economics another episteme shift is occurring between the end of the welfare state and the beginning of advanced liberalism. Governance appears in drastically different forms within these paradigms and in this is consistent in this new era of neoliberalism (Rose, 1999). This is the episteme shift that occurred in New Brunswick under McKenna’s leadership.

Rose argues that Western society has entered an episteme of advanced liberalism. Advanced liberalism, as its name may suggest, is not a return to a laissez fair economics but instead offers a significant deviation from the 20th century welfare state where the state took on the “role of planning society, planning production, housing, transport and welfare, [and became] an instrument for imposing morality” (Rose, 1999, p. 137). Advanced liberalism instead refers to an episteme committed to adopting neoliberal principles and the process of “organizing all features of one’s national policy to enable a market to exist, and provide what it needs to function” (Rose, 1999, p. 141). Individuals

are shaped to be self-reliant, entrepreneurial and independent while the state takes on the role of creating markets and economic conditions conducive to economic prosperity. It is precisely these features of governmentality: creating economic conditions and shaping citizens, which provide an understanding for Frank McKenna's mandate as Premier of New Brunswick. The next chapter will introduce a number of policy documents that place the New Brunswick experience within a governmentality framework.

Through governmentality, governments concern themselves in governing spaces but also concern themselves with managing populations. In this new episteme of advanced liberal democracies Rose (1999) argues that citizens are conditioned by "the invention, contestation, operationalization and transformation of more or less rationalized schemes, programs, techniques devices which seek to shape conduct as to achieve certain ends" (p. 3). Through governmentality, governing becomes a science through which subtle control is exerted up the population, to shape citizen conduct, allowing governments to achieve certain goals.

McKenna nudged New Brunswick up the first rung of the ladder towards a knowledge economy by creating a service economy. It was, in the end, as much a public relations exercise as it was a fundamental social transformation. While the initiatives attracted contact centre jobs they did not ultimately create or attract new a new professional class. The initiative was presented as inevitable because of the proliferation of technology and globalization however the traces of human agency are evident as citizens are subtly shaped for participation in the new economy. What happened in New Brunswick during the McKenna years is much less an example of technological

determinism and more as a portrait of governmentality. The population was trained to embrace a proposed, new, global economy and to assume responsibilities for the future of the province. Effectively marking the end of the welfare state while ushering in social political and economic reform consistent reforms consistent with a neoliberal episteme.

The next chapter will explore government policy documents, media articles, and speech excerpts that document the initiative and demonstrate how citizens are encouraged to internalize neoliberal values and accept increased globalization. An analysis of documents will reveal that the language employed by the government reinforces the academic discourse introduced earlier in this chapter. The post-industrial, or knowledge economy, is consistently portrayed as an inevitability brought on by the proliferation of technology and New Brunswick citizens are persuade to embrace technology to take advantage of the opportunities presented by this new economy. The geographic location of the province is purported to be a distinct advantage and draws on the language of Friedman, McLuhan and Gates who argue that anyone, anywhere, can participate in a global economy in a global village. Attention is never drawn to the fact that the free trade agreement was a conscious decision to embrace globalization or that the capital investment in high-speed network infrastructure is a mechanism to produce a flat world or global village. These documents, press releases, and speeches begin to shape the way New Brunswick citizens view the world thus laying the groundwork for eventual policy change.

Chapter 3: A New Discourse for New Brunswick

What does self-sufficiency mean to a New Brunswicker? In its most basic form it means having a well paying job. What does a vision of self-sufficiency mean for the Province as a whole? It means having enough resources to create the jobs and provide the programs, services and quality of life that New Brunswicker's deserve. ~ Frank McKenna

The previous chapter explored the common discourses used to describe evolving economic and social conditions in relation to technology. It positioned the idea of technological determinism in relation to globalization and neoliberalism and offered that this concept serves as the basis of the post-industrial society. The previous chapter also demonstrated that the New Brunswick government adopted technological rhetoric in an attempt to convince citizens that investment in technology to solve the economic malaise of the province was the only rational choice in the face of increased globalization. Finally, the previous chapter suggested that the entire McKenna high-tech initiative was more a neoliberal policy exercise rooted in the discourse of globalization rather than an example of technological determinism. The process can be understood through the concept of governmentality in which the state both creates economic conditions and shapes citizens for participation in this newly created reality. The purpose of this chapter is to examine these observations by demonstrating how language is employed by the government of the day to introduce a neoliberal episteme. Policy documents, newspaper articles, and speech transcripts will demonstrate that the citizens of New Brunswick were conditioned to accept the concept of the post-industrial society through a consistent narrative delivered throughout the McKenna mandate.

The New Brunswick high-tech initiative is perhaps best understood within the broader national and international discourse of the time. A number of Federal government and third-party reports articulated similar concerns to that of the New Brunswick government. For example, in February 1979, eight years prior to McKenna becoming premier, the Science Council of Canada produced a comprehensive report that warns that a failure for Canada to “gain control over its industrial and technological development and rebuild its industries” would lead to “a decline in our standard of living and employment opportunities” (p. 46). The Science Council report suggests that the nation needed to react to the emerging postindustrial society to remain economically competitive. The Science Council of Canada (1979) similarly warns “the Canadian economy is faced with a serious crisis which is manifest in high unemployment, persistent trade imbalances, and a falling currency” (p. abstract). The document noted:

Some observers of Canada’s economic performance have viewed with a certain indifference the decline in Canada’s industrial and manufacturing capability. They claim it only indicates that, like the United States, Canada is moving into a postindustrial economy with the bulk of employment concentrated in the service sector (Science Council of Canada, 1979, p. 16).

In 1984 the Science Council reiterated this position in a discussion paper on emerging technology noting that Canadian scientists “foresee information technology developments to be imminent and to have widespread societal impact” (Steed, Tiffin, Wallis, & Anderson, 1986, p. 7). The Canadian Science Council clearly assumed that Canada was moving from an industrial to a knowledge-based society and steps needed to be taken for regional economies to adapt.

The Economic Council of Canada (1987) used comparable language to that of the Science Council; “technological change is a crucial means to economic advancement. It is the key to improvements in productivity, global competitiveness, and ultimately employment. Rapid adoption of new technologies is therefore vitally important to future prosperity” (p. 4). Finally, in 1987 the Canadian Department of Communications released a document titled “Communications for the Twenty First Century” that argued, “Canada is in the midst of a profound shift in the foundations of its economic and social life” (p. 6). This economic shift is “of comparable historical significance to our earlier transition from an agricultural to an industrial society” (Communications Canada, 1987, p. 6)

The theme of an impending knowledge-based economy, and declining industrial society, had clearly become a focal point of the Canadian economic discourse by the late 1980’s. As demonstrated, the information economy had emerged as a major theme in information technology, economics, and national policy discussions. The national discourse demonstrates that the Canadian economy faced a significant challenge to adapt to the proposed inevitable postindustrial society. How did New Brunswick approach this perceived inevitability?

The initial Liberal economic agenda did not focus on a technological imperative but rather reiterated the need to strengthen resource-based industries. An analysis of “The Agenda for Change”, the official Liberal party platform for the 1987 provincial election, reveals the economic development aspirations of the party. It did not lay out any plans for an emerging knowledge economy while specific attention was paid to resource centric industries including fishery, forestry, mining, agriculture, and energy. The knowledge

economy is conspicuously absent as is the notion of the 'Self Sufficient society' that would eventually become the catchphrase used to encapsulate all economic development policies during the McKenna period. However, the neoliberal language of self-sufficiency is certainly present as the document establishes that the Liberal party is ready to lead the with "constrictive, practical, and financially responsible initiatives that will revitalize its economy and enhance its quality of life" while "employment and job opportunities will be the first priority of a new Liberal government" (Liberal Party of New Brunswick, 1987, p. 2). The knowledge economy is not specifically mentioned but the early language defining a new direction for New Brunswick can be found:

Our people must have the training and education required to take advantage of available opportunities; our small businesses must have the means to implement new technologies and create jobs; and our traditional industries must be encouraged in their efforts to add value to products and modernize so they can remain competitive in the marketplace (Liberal Party of New Brunswick, 1987, p. 2).

Bold leadership is required to prepare New Brunswick for the "changing economic reality that is unfolding before us" (Liberal Party of New Brunswick, 1987, p. 2). The language resonates with the concept of governmentality in which citizens need to be conditioned for lifelong learning, are encouraged to be entrepreneurial, and to reduce dependency on the state.

The knowledge-based economy is alluded to in the opening pages of the document yet it is never fully articulated. The telecommunications industry is simply absent from the document as is the New Brunswick telephone company, yet while neither the knowledge-based economy nor the telecommunication industry is present in the 1987

document while they each take up substantial space in the subsequent “Towards Self Sufficiency” document which would be released in 1993. These institutions play a central role in the notion of self-sufficiency while their role was conspicuously overlooked as McKenna stood on the verge of becoming the New Brunswick Premier in 1987. Perhaps one sentence articulates the lack of focus more than any other. When speaking of small business and geographical location the document specifically mentions that citizens need assistance in “rural areas to overcome the special problem of distance from, and access to markets” (Liberal Party of New Brunswick, 1987, p. 4). This problem of distance is diametrically opposed to the soon to be articulated concept that, rather than being a hindrance to innovative business, New Brunswick’s geographical location could instead be turned into a positive feature. According to the “Agenda for Change” the knowledge economy was simply not on the provincial radar in 1987 and instead it appears the adoption of technology as means of economic revitalization emerges as an opportunistic maneuver formulated over time. The document is ripe with neoliberal language but the direction is certainly not clearly articulated nor is the notion of the global knowledge economy well defined. The notion of self sufficiency and the economic opportunities provide by a state-of-the-art telecommunication company would require a little more time before they could be articulated properly. It is the previously introduced concept of governmentality that helps frame this opportunistic maneuver by the Liberals.

To this point, this chapter has focused on the prevalent national discourse and the economic position of the New Brunswick government in the late 1980’s. The following section will examine principles of governmentality before demonstrating the pronounced shift in governmental language that occurs.

As discussed previously the high tech initiative can be encapsulated within in the following idea; New Brunswick was to become the North American contact centre capital, with expected economic and technological spillovers; and large firms were encouraged to locate their IT work in New Brunswick (Courvisanos, 2000). The government of the day attempted to capitalize on the strength of the provincial telecom company cost effective labour pool to promote this mandate:

The McKenna government vigorously pursued contact centres and information technology companies to interest them in the province using, as an attraction, New Brunswick's state of the art digital infrastructure, competitively priced technical and service labour, a variety of financial incentives including training grants and forgivable loans and the favourable quality of life in the province (Wolfe, 2003, p. 133).

To understand the McKenna mandate through the concept of governmentality it is important to first understand the notion of the economy in an advanced liberal democracy. The 19th century economy was "organized within nations, limited by borders, customs and other restrictions" (Rose, 1999, p. 143) but the episteme shift to an advanced liberal society brought about a significant change to this idea of the economy. In this era of economic globalization Rose argues, "an economy is no longer so easily imagined as a natural coextensive with the realm of a nation state" (p. 143). The modern economy can be thought of as, what Rose terms, an unreal or calculable space. It is a virtual space in which technologies of governance can be applied to social, economic, and political problems. The unreal space is loosely, or vaguely, defined and is not tangible

or easily identified but it is a governable zone. The notion of the globalized economy is precisely the rhetoric, or technology of governance, used to convince New Brunswick citizens to embrace the technology agenda. According to one document:

Planning for the structural changes taking place in the global economy where future job growth will be more concentrated in the services sector, knowledge based industries, and small business. Leading edge technologies, in including knowledge based Industries represent a real growth opportunity for New Brunswick, and one that will make self-sufficiency more realizable (New Brunswick, 1993, p. 6).

In an advanced liberal society the population is led towards a collective ideal, which Foucault terms the imaginary, and this is articulated to the public through vehicles, or technologies, of governance. These technologies are applied forms of science, and social sciences, and are used to convince the public of a particular ideal. This is a subtle form of control, which emerges out of Foucault's power/knowledge, and is used to have the population manage itself, or internalize suggested values, in an advanced liberal democracy. These technologies "often take the form of quasi-scientific discourses working in tandem with policy and legislative changes" (Boudreau et al., 2009, p. 124). By framing the imaginary within the science of economics it is more likely to garner broad appeal because it is backed by quasi-scientific evidence. The imaginary is thus rationalized to the population and can be seen as a subtle form of control in which the population manages itself to attain the set imaginary.

The real McKenna miracle does not involve overcoming the established issues of declining natural resources, national economic policy, or the historical economic issues presented earlier in this thesis. Instead, the McKenna initiative approached economic development in a very different way by offering a solution by which reoccurring federal provincial issues could be relegated into irrelevancy. This solution offers, not a direct resolution to the problems surrounding the traditional sectors, but instead it offers a method to frame economic development in a very different light. Embracing digital communications technology relegates the traditional argument of economic development based on proximity to markets and urban rural structure into irrelevancy. The McKenna approach seemed to offer an alternative approach to the systemic issue of economic prosperity based on the three pillars of “the economy, skills and self-reliance, and government” (New Brunswick Department of Economic Development and Tourism, 1993). McKenna consistently argued that adopting technology as an economic panacea was not a choice but instead he emphasized the inevitability of technological development. He argues:

Canada’s resource sectors have long been the mainstays of our economy, and they will continue to play an important role. But as the world shifts to a more knowledge based economy. It will take us with it -- whether we like it or not. (McKenna, 1992, p. 10)

New Brunswick’s social and economic reforms, the persistence of public private partnerships, and provincial public education reform represent an episteme shift from the era of the declining welfare state to the beginning of an era of advanced liberalism. The

imaginary, in the case of New Brunswick, is continually articulated as the 'self sufficient' society. While the notion of self-sufficiency is only ever partially articulated it becomes the primary driver used to garner public support for the social and economic reforms proposed, and instituted, by the McKenna government. This imaginary is nowhere more prominent than in the 1993 policy document "Towards Self Sufficiency: Strategy for Economic Development". In this document McKenna argues that the self sufficiency vision, or imaginary, for New Brunswick offers all citizens "equality of opportunity for economic advancement, a way of life which sustains our natural heritage ... , and quality public services" (p. 10). The imaginary of the self-sufficient society is the goal set out for all New Brunswick citizens and became the *raison d'être* for the social and economic policies that followed.

The created unreal spaces of the 'global economy' and the 'knowledge economy' were tools used by the McKenna government and the media to suggest for New Brunswickers the imaginary of self-sufficiency. McKenna consistently argued that New Brunswick would need to embrace the notion of a knowledge-based society to facilitate participation in the new global economy. It has been argued that a new global economy was being created due to the prevalence of digital information technology as "digitization and the convergence of technologies are structurally transforming the economy with three results: privatization, deregulation and globalization" (Johnston, Johnson, & Handa, 1995, p. 211). New Brunswick was traditionally a major player in shipbuilding and in timber exports and it seems that it has been a part of a global economy for decades, if not centuries. However, the new global economy, as articulated by McKenna, would be created through the proliferation of digital communication systems. This prevalence of

information technology has powered the globalization of national economies and created an environment of the ‘flat world’, or ‘global village’. This irreal space of the global economy based on digital communications simply did not exist for New Brunswick before Frank McKenna came to office. It did not exist rhetorically in the Liberal platform during the 1987 election and only came into sharp focus after the Provincial government’s 1994 Task Force on the Electronic Highway. The McKenna vision was developed over a significant period of time and serves as an indicator that the global knowledge economy was adopted through interlinking social and economic policies rather than as an inevitable outcome of technological progress.

The global economy and knowledge-based economies were spaces created through language and become important drivers of policies and procedures towards a self-sufficiency imaginary. If New Brunswick could succeed in developing a knowledge economy it would no longer simply participate as a minor player in the Canadian economic system but instead would position itself, vis-a-vis the irreal space of the knowledge economy, as an active player in a global marketplace. New Brunswick would achieve economic success independent of the traditional provincial/federal economic game and despite a traditional reliance on the resource sector.

The episteme shift to an era of neoliberalism requires more than just a high-tech agenda. The advanced liberal state requires a very different subject than the subject in the traditional welfare state. Rose (1999) articulates that in an advanced liberal episteme “to optimize the economy one must govern through the entrepreneurship of autonomous actors” (p. 144). An autonomous actor internalizes the values articulated through the government imaginary and is reflected through seemingly self-directed choices. The

McKenna initiative certainly promoted the autonomous individual noting that loss of meaningful employment means “a lost opportunity for personal self-reliance and is, therefore, painfully destructive to individuals and families” (New Brunswick Department of Economic Development and Tourism, 1993, p. 15). Creation of this individual becomes a key component in the New Brunswick imaginary as “a fundamental tenet of our vision for New Brunswick is opportunity for individuals to achieve greater self-reliance through work and earned income” (New Brunswick Department of Economic Development and Tourism, 1993, p. 15). Not only does a subject need to be employed but must also embrace entrepreneurship with the ultimate goal of building and “an entrepreneurial society second to none in Canada” (New Brunswick Department of Economic Development and Tourism, 1993, p. 13). Technical skills training and education would need to be accessible to allow citizens to flourish in this knowledge economy as a “post industrial society is built around information technology” (McKenna, 1997, p.40). The created individual in the New Brunswick imaginary would be highly skilled, entrepreneurial, and self-reliant.

In facing this monumental economic challenge McKenna articulated, “It’s been too easy to cut trees, catch fish and plow land in this province. We’ve never had to think. Now it’s time to be creative” (Wilbur, 2006, p. 202). It is in his address to Atlantic Canadian Premiers, at the Atlantic Vision Conference, that sums up the ultimate goals for the high tech initiative. When speaking of the ICT sector McKenna (1997) articulates “My belief is that we should make this our auto industry. Make this our oil patch. Make

this our aerospace industry. Make this knowledge-rich economic base the life blood of Atlantic Canada” (p. 4).

No longer content to remain dependent on the natural resources of the province McKenna set a mandate for making information technology the centerpiece of a provincial employment strategy. It is important to establish that the high-tech agenda was an economic agenda; however, it was fully accompanied by broader social reform initiatives. The 1993 New Brunswick “Speech from the Throne” established a new vision for the province and marks the first official articulation of the self-sufficient society as McKenna states:

Our vision of New Brunswick is of a self-reliant society which can offer its citizens individual opportunity for social and economic advancement, a quality of life which sustains our natural heritage and cultural diversity, and provides quality public service based on sound public finances (p. 2)

Further to arguing that individual citizens should be independent, autonomous, self-sufficient actors, the official language implies that reliance the social safety has tragic consequences. The Throne Speech continues:

Unemployment insurance, income assistance, transfer payments have all contributed to a weakening of our collective character - leading to an inability to fend for ourselves. This is particularly true in Atlantic Canada and it is nothing short of a tragedy (McKenna, 1992, p. 15)

It is the 1993 Provincial policy document titled “Towards Self Sufficiency: Strategy for Economic Development” that begins to offer a much different roadmap to economic prosperity than the policy document of 1987. The introduction states that the document is

written to “reflect the realities of global economic competition and to focus on achieving a more self-sufficient society” (p. 5). The notion of a knowledge-based economy, and the proliferation of knowledge-based business, which is successfully skirted in the 1987 Liberal policy platform is the corner stone of the self-sufficiency document. Whereas the Liberal agenda previously focused on assets such as energy, transportation, fisheries, forestry, mining and agriculture this document reflects a much different economic climate and focuses on the importance of telecommunications and knowledge-based industries as an economic driver towards New Brunswick self sufficiency.

Our strong assets in energy, telecommunications, food production and processing, information technology, resource management, engineering and higher education provide us with economic foundations both to upgrade our traditional resource industries and to expand further into knowledge-based industries (New Brunswick Department of Economic Development and Tourism, 1993, p. 12).

The “Towards Self Sufficiency” document describes initiatives, or ‘technologies’, that New Brunswick would employ to transform the economy and persuade citizens to embrace the notion of a global knowledge-based economy. It also resonates with the notion of governance in advanced liberal societies:

Employees needed to be transformed into entrepreneurs; state based systems of insurance needed to be given back to the individual; traditional patterns of education had to be transformed into perpetual training lifelong learning; and welfare state citizens had to be transformed into autonomous selves, defining themselves in terms of their consumption patterns and their ability to self

actualize” (New Brunswick Department of Economic Development and Tourism, 1993, p. 124).

The document also places New Brunswick in an unenviable position of reacting to the inevitability of globalization and global economic competition as “technology and innovation and their application through investment and trade have brought global competition to our door” (New Brunswick Department of Economic Development and Tourism, 1993, p. 11). It is intended to “reflect the realities of global economic condition to focus on achieving a more self sufficient society” (New Brunswick Department of Economic Development and Tourism, 1993, p. 1). At the heart of the episteme shift from the social welfare state to an era of advanced liberalism was the process of embracing technology, attracting high tech firms, and providing the human capital to make it all work. As McFarland (2009) articulates, “From its earliest conception, the New Brunswick call centre project was a state-sponsored initiative, in collaboration with the local private-sector telephone company, NBTel” (p. 29)

New Brunswick’s potential for economic prosperity was consistently predicated on the technological advantage garnered through NBTel’s initiative to make the province the first fully digital jurisdiction in North America. According to the Task Force of the Electronic Information Highway:

In New Brunswick, we have an edge. Much of the key infrastructure is already in place. A leader in implementing communication technology, NBTel has established a fibre-optic ring around the province and now offers digital services to all its customers. This enables every home in New

Brunswick to gain access to the same high speed digital communications network -- a level not found in any other Canadian Province or American State at this time (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 3).

This head start is vitally important and it is duly noted, “while other parts of the world are still concentrating on getting infrastructure in place, New Brunswick can concentrate on using that infrastructure” (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 3).

Conforming to deterministic language the task force asserts that new opportunities are abound in the knowledge economy and “these new opportunities are not dependent on geography; they are dependent on expertise, enterprise and advanced telecommunications. In all those areas New Brunswick is in a leadership position” (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 4). Similar to the telegraph, radio, and television the proliferation of the Internet and advanced digital communication systems seemingly have an ability to transform society.

The information highway is termed the ‘Great Equalizer’ and that applies both personally and commercially ... Businesses in the province will no longer be hampered by distances and limited markets -- they will connect around the globe (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 8).

In addition to the flagship company, NBTel, the government consistently argues that it is strong telecommunications industry combined with an educated, bilingual, workforce that promise deliver economic prosperity.

The most vibrant business service sector is based on communications and information technologies. New Brunswick has leading edge telecommunications technology, a core of sophisticated data processing companies.... together with a bilingual workforce provide the foundation for a cluster of new service industries and are attracting new investment (New Brunswick Department of Economic Development and Tourism, 1993, p. 26).

This strategic rhetoric is invoked as a technique of governmentality. The media, acting as autonomous actors, echo the rhetoric in media reports and effectively sell these ideas to the general public. Recall the example of the Toronto Star's report titled "Information Highway Fast Lane: New Brunswick on Leading Edge of Information Technology" and the story of Barry Friedman who relocated his family, and his business, to New Brunswick specifically to take advantage of high-speed digital infrastructure and the quality of life. The story also documents that he was not alone and many others did the same thing; "Almost as if gripped by an info-age gold rush" (Brehl, 1994). This is the realization of the vision of the 1993 speech from the throne, which argues that citizens can participate in the global economy while enjoying the 'quality of life' that New Brunswick offers. Friedman states his reason for coming to New Brunswick; "Well, there's that view out my window. The quiet. Having some relatives nearby. The aspects of freedom, safety and security." (Brehl, 1994). Such reports demonstrate the position played by the media of reinforcing government narrative.

New Brunswick's adoption of the post-industrial economy resonated with the national narrative although it was developed over a period of time. In 2014, New Brunswick faces a significant deficit, and overwhelming debt, and may be in fact a failing

province. Clearly the McKenna initiatives did not provide sustained economic success, was clearly not the economic miracle the media had pronounced, and did not achieve the imaginary of the self-sufficient province. The McKenna miracle provided a much different approach to solving traditional issues, allegedly preventing the province from achieving economic success, such as the provincial/federal divide and the decline of the resource based economy. Explaining the New Brunswick experience using governmentality clearly shows a unique repositioning of a provincial economy within the irreal space of the global economy identifies the established imaginary of the self-sufficient society and the technologies used to produce the autonomous actor.

The next chapter will demonstrate how the language adopted by the New Brunswick is in turn used to create policies and institutions to direct New Brunswick citizens towards this newly created reality. This chapter will demonstrate how McKenna became instrumental in passing the Canadian-American Free Trade Agreement (FTA) thus creating, at least in part, economic conditions which required the entrepreneurial, independent, and self-sufficient citizen. It will also demonstrate the myriad of social and educational reform used to condition citizens for participation in the global economy while demonstrating how the media continually reinforced this message.

Chapter 4: Institutional Reform

The previous chapter demonstrated that technological deterministic language was adopted by the New Brunswick government of the day in an attempt to convince the public to accept the inevitability of a knowledge-based economy. Using the framework of governmentality, it was argued that citizens were conditioned to internalize neoliberal values reflected in McKenna's vision of a self-sufficient society. This chapter will demonstrate how social and economic policies were implemented and institutions were established to direct the province towards this newly created reality while encouraging citizens to be self-reliant, independent, and entrepreneurial. Additionally, the media as part of the government's public relations exercise consistently reinforced these reforms.

Free Trade Agreement

A key first step in creating the new economic vision for New Brunswick occurred early in the McKenna mandate, well before his government unveiled the technologically driven agenda of globalization and the self-sufficiency mandate. McKenna played a pivotal role in passing the Free Trade Agreement (FTA) between Canada and the United States in January of 1988 and this agreement represents a significant step in recreating the New Brunswick economy within a global context. Conservative Prime Minister Brian Mulroney was having a difficult time in passing free trade but "the addition of New Brunswick provided the pro-free traders with a clear majority of premiers (six), who in turn represent a clear majority of the Canadian population" (Nichols, 1987, p. 3).

McKenna's pro free trade stance position was delivered to New Brunswick citizens in the 1988 Throne Speech; the "government is confident [free trade] will work

to the benefit of the people of New Brunswick and of Canada (New Brunswick, 1988, p.1). One of the key components of this deal was “the elimination of all tariffs between the countries over 10 years” (Nichols, 1987, p. 3). Further to simply implying that free trade was a positive development for New Brunswick the government suggested that free trade would allow the province to prosper as it had before Sir John A. McDonald’s national policy.

New Brunswick’s economy is driven largely by its resource-based industries. The resource sector has an average yearly employment of 35,000 and generates sales of \$3.3 billion. Our economy is dependent on export markets and, naturally, very dependent on our major trading partner - the United States. The recent large increase in the US trading deficit is but another in a long line of signals that cannot be ignore. (McKenna, 1987)

The speech goes on to suggest that the FTA would create economic opportunities and that “New Brunswicker's are skilled traders, no strangers to foreign markets or competition and optimistic that the orderly removal of trade barriers can operate to their direct advantage” (McKenna, 1988, p. 1). McKenna’s direct involvement in passing the free trade agreement demonstrates the active role neoliberal policies play in creating condition for globalization. Further to opening trade up internationally McKenna suggested opening up provincial borders to increase trade within the Confederation. According to McKenna:

If we are going to get Canada to work, we must open up the barriers to trade throughout the country. With a free-trade agreement with the United States, on the eve of a trilateral agreement with Mexico. Frankly, it’s an embarrassment that we

have so many barriers between our provinces. It is an embarrassment and it's not good for business (McKenna, 1992, p. 8).

The willful creation of a free trade zone demonstrates that globalization and the notion of a global economy are not inevitable consequences presented by a technologically infused society but are conscious choices by jurisdictions to embrace an alternative economic system to the social welfare state. This is consistent with the prescriptive notion of globalization as discussed in chapter two. After embracing this economy McKenna embarked on a public relations campaign to promote the entire initiative.

Public Relations

Public relations were a key component of the McKenna mandate. In 1989 the Liberals hired the New York consulting firm Lippincott and Margulie to “produce a report on how New Brunswicker’s viewed their province and how the province was regarded nationally” (Lee, 2001, p. 176). The results of the Lippincott study showed that that New Brunswicker’s had “a pitiful image of their home, and from the outside New Brunswick was seen as a beautiful place but an economic basket case” (Lee, 2001, p. 176). This study influenced governmental public relations for the remainder of the mandate; good news was shamelessly and repeatedly fed to reporters while all government messages were tightly controlled. Maurice Robichaud, the government’s public relations director, acted as the information gatekeeper in this system while the press played a crucial role in disseminating the state message. The relationship between the media and the government was so tight that the media role as the fourth estate fell into question; “Robichaud appeared to have successfully cultivated relationships with key reporters in the press gallery who would generally repeat whatever ‘Moe’ said without

question. These reporters forged a special connection with the Premier and they lost their objectivity” (Lee, 2001, p. 178). The provincial media consistently towed the party line while the national media also played a part in relaying a positive New Brunswick narrative to the rest of Canada.

Driving the Information Highway

The electronic super highway, as it was known at the time, began to take its place as the pivotal piece of McKenna’s economic development plan beginning with the 1993 throne speech. This theme garnered such importance that in January of 1994 the Liberal government announced the creation of the Information Highway Secretariat under Minister MLA Georges Corriveau. The secretariat was the first of its kind in Canada and exemplifies the profound faith McKenna had in the technology as a cornerstone of economic prosperity.

Corriveau oversaw the 1994 New Brunswick Economic Task Force which produced an economic development document titled “Driving the Information Highway”. The task force representing government, industry, and academia prepared the document to highlight the potential impact of the information highway on New Brunswick. The task force recommendations included accelerating evolution of the information highway and stimulating private-sector investment, educating New Brunswick citizens for knowledge work, encouraging outside investment, promoting unlimited access for small entrepreneurial firms, moving quickly to capitalize on infrastructure advantages, and stimulating private sector development.

The task force encourages entrepreneurship with capital provided from private business while citizens are encouraged to perpetually reinvent themselves through life

long education to maintain an ability to compete economically within a global context. The recommendations also suggest that a necessary requirement for competition on the information superhighway is conformation and standardization while, at the same time, encouraging outside investment. This suggests that to compete in a global environment a region must sacrifice the conditions that make it unique thus trading in any regional geographic advantage to compete as simply another node on a global network.

These points demonstrate the overt plan to prepare New Brunswick for competition in a global environment. Specific attention is paid to educating, or conditioning citizens, while simultaneously creating technological infrastructure to digitally connect the province. The result of these initiatives would be to reduce New Brunswick to a node on the global network and would eventually prove to be a downfall of the initiative. These recommendations also suggest that public-private partnerships are essential in shaping a market conducive to outside investment as it states “a partnership between provincial government and industry can provide both the principles that help shape the market and some of the rules governing the development of the information highway in New Brunswick” (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 7). The most profound example of public private partnerships is between the government and NBTel. The task force document presented a blue print for recreating the New Brunswick economy based on the promise of digital technology and the perceived inevitability of a global economy. The remainder of this chapter will demonstrate the social welfare, educational, and economic reform that would permit this to happen.

Social Program Reform

McKenna took direct aim at the social safety net in directing blame for much of the region's problems. In the 1997 throne speech he invokes the words of Bob Dylan in suggesting that citizens with a dependency on social programs are akin to drug addicts:

I think it was Karl Marx who said that religion is the opiate of the masses, well, I can tell you that federal dependency is the opiate of this region, Atlantic Canada. Dependence, unemployment insurance, welfare cheques, transfer payments - all have become a narcotic to us ... it shapes everything we are. We know it to be true, we know it better than everybody else in Canada. But 'the times they are a-changin'. Those people who stand up and say that Canada wants more unemployment insurance money are not speaking for Atlantic Canada. That is not the way we feel. Now there are those, I think justifiably, who criticize aspects of reform that do not put incentives in the right place and still create disincentives to work. That's fair criticism. But to suggest that what we want in Atlantic Canada is more of the same is dead wrong. That's not what we want and that's not what we need. (McKenna, 1997)

The self-sufficiency imaginary is difficult to critique in part because it is never fully articulated. The self-sufficient umbrella, however, paved the way for the adoption of the technology agenda and provided reason for social reform while the media delivered the message to the general public. In a 1993 article titled "Frank McKenna for Prime Minister" the neoliberal position of McKenna is articulated; "our health, welfare, and unemployment insurance systems must be overhauled because we cannot afford them as they exist" (Francis, 1993, p. s3). A self-sufficient society would adopt the prevalent

neoliberal position and reduce government expenditures at all social cost. This particular article goes on to praise the effectiveness of McKenna's expenditure reduction.

Besides launching unique programs, New Brunswick has also led the country in fiscal responsibility. In two years, McKenna's government has cut administrative costs by \$300 million, pruned the cabinet by 25% and cut the civil service payroll of 30,000 by 1,300. This year's deficit projection is a minuscule \$40 million on a budget of \$4 billion, a zero deficit in the 1994-95 fiscal years, and by 1995-96 a surplus, which will be applied to paying down the debt (Francis, 1993, p. s3).

Reforms to social assistance programs represented a shift towards neoliberal principles of self-sufficiency and self-reliance. One such type of reform, workfare, was a controversial variation of social assistance reform that requires "the linking benefits or the levels of benefits to participation in programs" (Quaid, 2002, p. 20). McKenna oversaw the creation of three distinct workfare programs in New Brunswick: (1) NB Works (voluntary learnfare/workfare), (2) the Self Sufficiency Project (time-limited earnings supplement lower faxback rate, (3) the NB Job Corps (for displaced older workers aged fifty to sixty-five). The NB Works program was the most expensive and high profile example of New Brunswick workfare system and is particularly interesting as the province managed to have the federal government fund a large proportion of it.

According to Courchene (1994), NB Works had three related goals: to develop the human resource and employment potential of the social-assistance-recipient caseload; to begin to change the attitude that may exist that income assistance is an end to itself to an attitude that people can increase their employability and job ready status, and to save social assistance costs by moving persons from caseload to work. McKenna describes

NB Works as an opportunity for welfare recipients to move from long-term state dependency to reliable employment:

Employable income assistance recipients will be offered more training and work opportunities than ever before. A program called NB Works will see \$177 million, now spent by our two governments on welfare and unemployment insurance, diverted to long-term education and job training. As well, more funds will provide wage supplements to welfare recipients who take low paying jobs. This will compensate for the benefits they lose when they leave the welfare system, and provide more incentive to work (Courchene, 1994, p. 16).

The NB Works program differs from classical welfare style programs in that initial enrolment was on a voluntary rather than a mandatory basis. This resonates with the idea of New Brunswick as a living lab for both social reform and technological innovation. The NB Works program targeted mostly single mothers receiving welfare assistance and the training attempted to prepare recipients for work in a variety of employment fields. The program launched in 1992 and “guaranteed people on welfare twenty weeks of summer work if they complete their high school education and take part in a managed job search while receiving a training allowance” (Lee, 2001, p. 226). No longer was the provincial government footing the bill for underprivileged citizens and instead these citizens were encourage to become ‘self reliant’ and get off the ‘government dole’.

The media again disseminated the provincial rhetoric as demonstrated in an article titled “Escaping Life on the Dole”. The article delivers the heartfelt story of a young mother on welfare that has been given a chance, through the NB Works program, to retrain for the new economy. The article describes the NB Works program as “an

innovative federal-provincial educational retraining program aimed at getting people off welfare” (Kennedy, 1994, p. c11) and argues that the neoliberal practice of conditioning a self-reliant citizen can be accomplished through these types of programs. These articles positively portray social reform although participants are often worse off financially because of them; “participants praised their training conditions and said they had improved self esteem and broadened their circle of friends” (Kennedy, 1994, p. c11). Social assistance reform was designed to encourage citizens to be self-reliant though there were a number of alternative reforms geared towards entrepreneurship.

GetConnect and Self Start Program

In an effort to promote entrepreneurship the government also introduced a number policies and programs. One example is the Self Start program that provided first time entrepreneurs with startup business funds up to \$10,000 (Milne & University of Toronto, 1996) which was reinforced with a massive public relations effort including advertisements in the *Globe and Mail*. While entrepreneurial startup programs are not unique to New Brunswick is worth noting that this particular program follows the McKenna pattern of reform combined with high profile public relations. The program was focused not only on assisting business entrepreneurs but also intent on marketing the initiative to a broader community.

Additional entrepreneurial programs took a more indirect approach. For example, the Get Connected program enticed individuals to purchase computers and connect to the Internet by offering sales tax rebates of up to \$250 on new computer purchases and, through a deal with NBTel, a month of free Internet access. While clearly not as expensive as the Self Start program the Get Connected program was designed to get as

many New Brunswickers online as possible. As early as 1996 the premier explained that many information technology jobs could be created if only the qualified workers were available. This program was touted as one way to help connect computer literate people to such jobs.

Another program, this one geared at providing Internet access for remote communities was the Community Access Centre Program (CAP). Approximately 200 CAP sites, as they eventually became to be known, were created through a combination of provincial and federal funding. These sites provided jurisdictions with connection points to the world wide web at a time when home Internet access was not nearly as prevalent as it is today. The Get Connected and CAP programs were intended to expose citizens to an online, digital, world. A secondary goal was to create computer-literate people capable of filling informational technology roles though the link between Internet access and the creation of information technology experts is never defined, and is instead left to chance. This is very similar to the notion that high-tech companies, and a knowledge intensive economy, may possibly spin off from investing in call centre technology. In education reform the government employed similar logic.

Education Reform

The McKenna government implemented a number of education reforms to encourage participation in the high-tech economy and to take advantage of the technology provided through the relationship with NBTel. These reforms altered not only curriculum but classroom pedagogy as well. TeleEducation NB was created to provide remote sections of the province with access to online education and to deliver high-tech training to a broad audience. TeleEducation NB provided Brunswick students with online

electronic classrooms with simple user interfaces. In particular, “TeleEducation NB is providing for the delivery of secondary, college and university courses by audio, video or teleconferencing at more than 50 sites across the province. Courses range from general upgrading to courseware design to advanced physics” (New Brunswick Task Force on the Electronic Information Highway, 1994, p. 14).

TeleEducation NB was geared towards older students, with aspirations of life-long learning and upgrading of skills, but the K-12 system was also infiltrated with technological initiatives. The Driving the Information Highway task force report announced that one hundred and sixty schools would have a local area network installed with twelve of these schools then being connected with other schools across Canada. Again no clear intended outcome is stated other than simply providing digital access. By 1996 all schools in New Brunswick were connected to the Internet and high school students were required to become computer literate before graduation.

Finally, secondary and post-secondary curriculum shifted focus; “Community colleges changed drastically, too, shifting their focus from trades to information technology. From top to bottom, education reform was designed with the vision of creating an educated workforce for the province’s emerging information technology economy” (Lee, 2001, p. 226). Secondary education reform was an attempt to provide human capital, capable of working in the high-tech economy, to the newly created labour market.

Change is needed in the post-secondary system too, if we are to keep pace with a changing world. We need to reduce duplication between University and college

programs. Do better targeting of new skills. Graduate more engineers, in particular women. Offer more technology and technical programs” (Lee, 2001, p. 22).

Business Incentive for Call Centres

This chapter has demonstrated that through a series of neoliberal reforms citizens were encouraged to become self-reliant, entrepreneurial, and embrace a high-tech agenda. The next section of this chapter will demonstrate that industrial relation reform encouraged outside investors to relocate to the province take advantage of favourable labour conditions which allowed the call centre industry to thrive. One such reform is a general anti-union approach to industrial relations; “the government’s neoliberal call centre strategy also included an anti-union industrial relations policy, intended to provide employers with the advantages of a weak and divided workforce” (McFarland, 2009, p. 33). McKenna himself set this provincial tone when dealing with the provincial civil servants; “In order to balance the book McKenna forced the public service unions to carry a heavy burden. Freezing wages on 10,000 public servants” (Lee, 2001, p. 202). In the process of implementing the wage freeze McKenna had essentially disregarded previously signed collective agreements and set a precedent of dealing with organized labour. This is a position that the government was not shy in endorsing:

Their [government of New Brunswick] 1996 web site was surprisingly candid, pointing out that: 1. the telecommunications industry in New Brunswick has the lowest rate of unionization in Canada, 2. some call centres which were unionized elsewhere have consolidated as non-union operations in New Brunswick, 3.

NBTel is the only telephone company in Canada with non-unionized clerical staff (McFarland, 2009).

Creating a climate unfriendly to union participation was a manufactured attempt to ensure that business costs would be kept as low as possible. Additionally, the Workers Compensation Board developed a strategy to “keep premiums low while ensuring that injured workers receive adequate benefits” (Milne & University of Toronto, 1996, p. 90) thus improving the province’s competitiveness while maintaining a facade that workers rights remained important. A central component of this strategy was the removal of stress as a legitimate compensation claim; this was directly geared towards minimizing call centre compensation claims. Other reforms were targeted towards improving the operational costs of call centre operations and included the removal of sales tax on 1-800 numbers; “which has been irresistible to companies with high-volume 1-800 call-centre operations. They’ve been flocking to the province for years now” (Perry, 1995, p. a20).

Media

This chapter demonstrated that a series of social, educational, and economic reforms accompanied the McKenna neoliberal adoption of a high-tech economy. It was also suggested that provincial media developed a special relationship with the premier and consistently echoed the official government rhetoric. The national media also played a role in cheerleading the initiative and spreading exploits of the ‘McKenna miracle’ across the country.

National media articles focused specifically on McKenna’s leadership and promoted the image that he was almost single handedly turning around the fortunes of a

downtrodden province. In a 1994 Globe and Mail article the author suggests the nine other premiers suffer from ‘premier envy’ of New Brunswick’s leader:

A bird? A plane? No, it's Super premier. New Brunswick's Frank McKenna seems to be leading a charmed political life these days. Across the country tonight, eight men and one woman will heft another five-kilogram briefing book onto the night table and lay their weary heads on downy pillows to sleep. They will dream of higher transfer payments, constitutional accords, abundant cod, inexhaustible lumber supplies harvested by axe-wielding environmentalists, and children born bilingual. They will dream of ordinary citizens bearing gifts of gratitude and reporters gathered cross-legged at their feet, taking in every word, spellbound by their wisdom. Ah, the dreams of premiers... (Zimbel, 1994, p. 1).

Other articles lauded the provinces business advantages using the same language as McKenna and his entourage. A 1993 article in National Post explains that McKenna’s team is on a sales trip to Toronto and what they are selling is “New Brunswick, its low labour, housing and land costs. Its competitive corporate taxes. Its bilingual workforce” (Lownsborough, 1993, p. 2). This article reiterates the position of New Brunswick as open for business run by leader who refers to himself as the CEO of the province. In 1994, The National Post ran an article titled “Trees, Potatoes and Telecom” that praised New Brunswick’s the shift from a resource economy to a knowledge-based economy. The author echoes the provincial sales pitch; “New Brunswick boasts no general capital tax, no payroll tax, no sales tax on electricity, 1-800 phone service or manufacturing and production equipment and an investment-tax-credit program. And McKenna offers training money” (Vardy, 1995, p. 1).

Additional articles extolled the virtues of the premier and the province while highlighting New Brunswick's approach to social welfare:

If nothing else, credit the province with taking the lead where others fear to tread.

In May, for instance, McKenna launched a bold attempt to break to break the cycle of welfare dependency. The NB Works program, a six-year \$177 million national pilot program funded by four provisional and federal agencies, offers onetime welfare recipients the chance to get back to work under an intensely managed three-year program of paid work and education in extramural high schools (MacIsaac, 1992, p. 2).

To summarize, the McKenna high-tech initiative was accompanied by economic, educational and social welfare reform and was publicly promoted using a government centric public relations strategy. The government created the economic conditions for a high-tech industry and attempted to provide the human capital to make the entire operation work. The next, and final chapter, will demonstrate that the McKenna miracle did not provide long-term economic success or transform New Brunswick into a knowledge-based economy. The next chapter will also compare the New Brunswick experience with Ireland and with Massachusetts and demonstrate some similarities and differences with the approaches taken to adapt to the global economy by these two regions.

Chapter 5: Conclusion

New Brunswick's adoption of a high-tech agenda during Frank McKenna's ten-year mandate was a neoliberal economic exercise that promised to transform a resource-based economy into a high-tech knowledge-based economy. However, this exercise created neither long-term economic development nor the self-sufficient society it promised. The information and communication technology sector showed initial promise although the mandate essentially brought service sector call centre jobs to the province while introducing a series of social reforms infused by principles of neoliberalism and globalization. This chapter will reinforce the position that a knowledge-based economy never developed within the province, draw brief comparisons with both Ireland and Massachusetts, and conclude that the McKenna miracle ushered in an era of neoliberalism in New Brunswick.

The ICT Sector

The New Brunswick call centre industry experienced substantial growth during the McKenna mandate. According to the ContactNB website, ContactNB is a group representing call centre employees in New Brunswick; the industry employs over 18,000 people and contributes "over \$1 billion annually to the province's economy" (ContactNB, 2011). This number represents only a small decrease from the contact centre industry peak in 2007 when it employed 21,000 workers (McFarland, 2009, p. 8). The call centre industry has become a significant employer in the province though debate remains on the value of such jobs. It has been argued that call centre service industry jobs create only de-skilled, entry-level service jobs, which often offer poor pay and conditions (Lindsay & McQuaid, 2004). These types of transient jobs earned the moniker of 'McJobs',

popularized by author Douglas Coupland (1991) in his book Generation X, in which he argues these type of jobs are “a low-pay, low-prestige, low-dignity, low-benefit, no-future job in the service sector. Frequently considered a satisfying career choice by people who have never held one” (p. 5). The dilemma for a have-not province is in determining whether these ‘McJobs’ are better than no job at all. McKenna sums up his position: “If it’s a choice between a service sector job or nothing. We are taking every job we can get” (Lee, 2001, p. 186).

It is not the purpose of this thesis to quantify the value of service sector call centre employment to the economic health of the province but it is important to establish that the call centre industry benefited greatly from McKenna’s stewardship. It is also important to recall that developing a service sector is the first rung of the ladder in Daniel Bell’s definition of a knowledge society. McKenna established New Brunswick as the call centre capital of North America, however, a vibrant information and communication sector never developed out as trickle-down effect. Near the end of McKenna’s mandate, former UNB Political Science professor, Don Dessurud argued:

The drive to create jobs in information technology is at a pivotal point. So far, most of the new jobs have been [created] in call centres, where neither the wages paid nor the skills required are high. The key will be to get New Brunswickers engineering high-tech products. The recent announcements of jobs for people working to solve the millennium problem are a sign that is beginning to happen. (in Hamilton, 1996)

The employment created by millennium problem was short lived and the arrival of the new millennium coincided with the global crash in technology stocks; known as the dot-bomb crash.

While New Brunswick's call centre industry flourished, high-tech information and communications remained a fledgling sector. There was initial growth: "the ICT sector had grown from almost nothing, when McKenna gained power, to 266 (mostly small companies) employing approximately 3,295 people by 1998" (Savoie, 2001, p. 165). However, the ICT sector remains a small player in the New Brunswick economy. For example, a 2011 report prepared by the Premier's Advisory Council on Technology titled "Growing the ICT Sector" offers insight into the state of the ICT sector in New Brunswick.

New Brunswick as an economy is not leveraging ICT to the fullest. Our exports of ICT goods are less than a third of the national average, and the sector represents less than 4% of the Provincial GDP, a full 25% lower than nationally.

(New Brunswick Information Technology Council, 2011, p. 3)

There have been a number of recent success stories in the New Brunswick ICT sector including the sale of Scholar.com (recognized as worldwide leader in online learning) and the 2013 sale of New Brunswick startup Radian6. Sales of this nature epitomize the problem of becoming a node in the global network economy. In McLuhan's global village companies can be moved, amalgamated, and transferred regardless of physical location. However, these are anomalies in contrast to the larger picture of the New Brunswick ICT sector which has not developed to the full extent of McKenna's vision and has never become the driver of the provincial economy: "It is clear that the New

Brunswick economy has not been transformed. It looks much as it did in 1987” (Savoie, 2001, p. 166).

Aside from the shining stars of high-tech startups developed within the NBTel family of companies there is no evidence that the ICT sector ever really flourished in New Brunswick. There was the initial promise of a high-tech sector being created as a spinoff from the call centre initiative but this technology sector simply never blossomed. The sale of NBTel to Bell Canada effectively marked the end of the LivingLab and, as economic development consultant David Campbell (2010) noted, marked the “retrenchment of NBTel back to a plain old telephone system” (p. 1). The information and communications technology industry that McKenna claimed was key to securing New Brunswick’s place within the global knowledge-based economy simply never materialized, and “New Brunswick has virtually no large tech firms here anymore” (Campbell, 2010, p. 1).

New Brunswick was certainly not the only jurisdiction attempting to capitalize on human creativity in an attempt to establish a knowledge-based economy. Indeed, in both Ireland and Massachusetts there is evidence of the same processes of governmentality used to nudge regional economies into a globalized economic climate. These cases are comparable to the McKenna miracle in New Brunswick for various reasons that will be briefly explored.

Ireland

For example, similar to New Brunswick’s position in Canadian confederation, Ireland “was one of Europe’s poorest countries for more than two centuries” (Powell, 2008, p. 342). The Irish economic condition of the 20th century has been particularly

troubling: “the performance of the Irish economy since independence in 1922, and especially during the post-war boom that transformed the rest of Western Europe in the 1950’s, was utterly miserable” (O’Toole, 2010, p. 17). During the 1980’s “the unemployment rate reached 17 percent, emigration soared, the government’s finances were a shambles, and submissions to a draconian International Monetary Fund (IMF) program was considered as a means of getting the economy back on track” (Burnham, 2003, p. 1).

In the last decade of the 20th century the Irish economy experienced an incredible turnaround and achieved a “remarkable rate of economic growth” (Powell, 2008, p. 343). This rapid turnaround of the economy was so profound that “even the Irish can hardly believe their luck, as firms like Nortel fuel a red-hot economy that is the envy of the world (Maclean’s, 2000, p. 47). The Irish economy was indeed the envy of the world; “the great economic success story of the past ten years (i.e., the 1990’s) has been the Republic of Ireland” (Burnham, 2003, p. 537).

The media eventually drew “a comparison between the performance of the Irish Republic and that of the ‘tiger’ economies of south-east Asia” (Coulter & Coleman, 2003, p. 3), naming Ireland’s success the Celtic Tiger. The economic conditions have since dramatically deteriorated and “the mess Ireland is facing now is in sharp contrast to the Celtic Tiger days, which lasted for most of the 1990s until 2003, when the country was a shining example of how to create an economic miracle” (Keenan & Reguly, 2010, p. 3). As in the New Brunswick case study, the Irish miracle was a short lived economic turnaround fuelled by investment information technology augmented with social,

economic, and educational reforms. Observers of the Irish boom of the 1990's used terms that we have seen in our analysis of New Brunswick: continual innovation driven by technology, near miraculous transformation to a post-industrial society, and knowledge as a key resource. (Powell, 2008; Jacobson et al, 1999; Keenan and Reguly, 2010)

Similarly, researchers have argued that whatever success the Irish economy experienced during its technological boom was the result of economic and tax incentives favourable to the global business, prior investment in technological infrastructure, education reform, and promises to deal with labour issues. (Burnham, 2003; Keenan and Reguly, 2010; Rappaport, 1999). This economic shift is the focus of a MacLean's magazine feature that suggests high tech clusters led "Ireland's near-miraculous transformation from an agricultural base to one driven by information technology and accompanying services" (Keenan & Reguly, 2010). In the end the Celtic Tiger involved similar technologies of governmentality as the McKenna miracle.

Massachusetts Miracle

The case of Massachusetts is instructive because many of McKenna's policies come almost directly from the "Massachusetts Miracle", led by then governor Michael Dukakis. Dukakis is widely credited with "turning around ailing mill towns, like Lowell, Massachusetts by introducing high tech industries" (McLusky, 1988, p. a14). This dramatic recovery of the state made it "a model for others to follow" (Lampe, 1988, p. 1) and New Brunswick would eventually do just that. The state came into national focus for its success in developing a high-tech knowledge-based economy with Massachusetts

Route 128 becoming known as “America’s technology highway” (Leibovich, 1998, p. e4).

In February of 1987, prior to winning the provincial election, McKenna visited Dukakis “to seek advice on how he could transport New England’s ‘economic miracle’ north” (Beltrame, 1987, pg.1). At that time McKenna stated he “was impressed at the way [Dukakis] has run Massachusetts, the high level of employment and the commitment to social programming and the compatibility of the two" (McLusky, 1988, p. a14). McKenna learned that Dukakis had acted as the state’s “chief cheerleader and had personally escorted busloads of executives on tours through the state” (Lee, 2001, p. 179). The message from New England became the blueprint New Brunswick would follow towards developing a knowledge-based economy and chasing the self-sufficiency imaginary.

McKenna’s visit to New England clearly played a pivotal role in shaping his economic development vision for New Brunswick and in some cases it appears that the Massachusetts blue print was copied verbatim:

Dukakis's programs have been innovative, using state government to spur growth by enlisting the private sector instead of going to the taxpayers. His welfare job-training program, his improved tax collection plan and his host of quasi-public agencies (in which the state and businesses share the costs of underwriting start-up companies) are being copied widely around the country. (Butterfield, 1988, p. 1)

There are also distinct differences, specifically in the area of education, between the New Brunswick and New England cases. At this time, the Boston area alone had sixty-five colleges and universities that drew “over a quarter of a million students per year (Lampe, 1988, p. 13). Many of these institutions are world-renowned; they include Harvard, Massachusetts Institute of Technology (MIT), and Boston University, which have a long history of contributing to the economic development of the region. During the period 1971 to 1987, “Massachusetts experienced an extraordinary turnaround and the high technology sector played a central role in revitalizing the region” (Lampe, 1988, p. 18). Again, this miracle did not last, and in 1989 the economy crashed in what has been described as the worst downturn since the 1930’s Depression. The ‘Massachusetts misery’ moniker eventually replaced the miracle. Ultimately, the McKenna miracle can be likened to the Massachusetts miracle in that “some of the economic progress may have been real but most of it depended on picking the right statistics” (McGillivray, 1993, p. a8).

The examples of Ireland and Massachusetts reinforce the idea that the New Brunswick government was grappling with a set of economic conditions (globalization) and ideological assumptions (neoliberalism) that were common during this period. In addition, the strategy used in New Brunswick, which has been explored through Foucault’s concept of governmentality, can help explain the limited success and long-term failures of the globalization agenda in other jurisdictions.

The New Brunswick high-tech, self-sufficiency initiative did not create the knowledge-based society it promised. Instead, the initiative introduced a set of neoliberal economic, social, and political reforms and represented an episteme shift away from the welfare state into an era of neoliberalism. The governmentality model provided a framework for understanding this initiative by demonstrating that the government of the day created specific economic conditions and, through rationalized techniques and programs, sought to create a self-governing labour pool dedicated to supporting this created economic vision.

In creating this labour pool McKenna embraced a version of the staples economy similar to the one he was trying to lead New Brunswick away from. Technologically skilled human capital became the new staple used to fuel the technologically driven economy. Consistent with Ellul's substantive suggestion that in the technological society humans become relegated to being slugs in a slot machine, or as Heidegger argued, become enframed by technology, New Brunswick high-tech workers became conditioned slugs of the globalized high-tech economy. Preparing citizens for employment in a high-tech globalized industry does not guarantee the success of a region and instead place remains important in the knowledge-based economy. McKenna's new staples economy did not last.

The New Brunswick ICT industry remains a fledgling sector nearly two decades after the McKenna mandate ended. The province's consistently high unemployment rate, dire fiscal situation, and continued dependency on natural resource extraction continue to

reinforce the position that McKenna did not transform the economy nor create sustained economic prosperity. Instead, McKenna ushered in an era of neoliberalism consistent with reforms taking place in much of the Western world in a post-Reagan and post-Thatcher era.

These reforms are consistently articulated as inevitable aspects of globalization brought on by the proliferation of information technology though this thesis demonstrated that this is clearly not the case. Instead of being contingent on technology, neoliberal reforms consist of systematic attempts by governments to alter economic, social, and political systems; “to invent a spinning machine is less significant than... to devise and administer a successful code of factory discipline” (Pacey, 1983, p. 19). Instead of technology being considered a causal instrument of change it must instead be evaluated as part of a social political, and economic matrix. Social reform must be thoughtfully critiqued rather than dismissed as technological inevitability. Ultimately, McKenna convinced citizens that technology alone created the conditions for the knowledge society while convincing citizens to embrace this new reality and embrace the possibility of economic miracle. However, the real ‘McKenna miracle’ occurred in convincing citizens to willfully embrace the demise of the welfare state.

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<http://search.proquest.com/docview/385184927?accountid=14611>

Curriculum Vitae

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EDUCATION

Masters in Interdisciplinary Studies

University of New Brunswick, Saint John, NB

MIDST

August, 2014

Research area is the paradigmatic shift from industrial to knowledge societies, and economies, through investment and development of information technology. Using New Brunswick as a case study, this research will encompass the broad impact the development of the information and computing technology sector (ICT) has had on the social, political and economic aspects of New Brunswick society. The core research work will be dominated by Information and Communication studies but will also entail research in Political Science and Sociology.

Diploma in University Teaching

University of New Brunswick, Fredericton, NB

The Diploma in University Teaching (DUT) is designed to assist instructors in developing the knowledge, skills and attitudes that will enable them to increase competency in the teaching and learning process and in instructional design.

Bachelor of Arts, Information and Communication Studies

University of New Brunswick, Saint John, NB

First Division Honours, 2009

The Information and Communication Studies Major provides students with a comprehensive understanding of the social, political, economic and cultural impact of information and communication technologies and practices. As an interdisciplinary Arts program based in the tradition of the social sciences and humanities, the ICS approach combines theoretical, historical, empirical, and practical study, with an emphasis on emerging media of communication and information gathering and distribution.

**Electronic Engineering Technology
Data Communications Option, EET**

New Brunswick Community College, Saint John, NB, 1996

Obtained a diploma as an Electronic Engineering Technologist (EET). Courses include data communications, telecommunications, microprocessors and fiber optics. Topics detailed in these courses included protocol analysis, digital and analog communication systems as well as computer hardware. This was a three-year program focused on engineering electronic circuits. Co-op work terms work spent at both New Brunswick Power and the New Brunswick Community College Information Technology Department.

RECENT/CURRENT ACADEMIC INSTRUCTOR POSITIONS

Foundations of Information and Communication Studies. Course Instructor.

Information and Communication Studies - ICS1002

This course is a basic introduction to the social, cultural, political, economic and technological aspects of the information and communication revolution.

Media Living: Audio-visual and New Media in Everyday Life. Section Instructor.

Information and Communication Studies - ICS2102

Explores the political, economic, ideological and organizational settings within which contemporary media operate and examines their importance in many aspects of contemporary life. Topics include: the rise of broadcast television; the role of television in everyday life; the rise of new media (such as the world wide web) and their growing significance in everyday life.

Digital Democracy. Section Instructor.

Political Science - POLS3007

E-government, E-governance, and E-democracy are terms that are increasingly being used to refer to how modern electronic information and communication technologies are used in politics and government. This course examines the nature and consequences of technologically mediated political practices in democracies.

Business Communications. Section Instructor.

Business Administration - BA2001

Introduces students to topics related to business communications, including preparing research papers and business documents; delivering presentations, interviewing, basic speaking and listening skills, running business meetings; and a number of topical issues related to business communications in the 21st century

Sociology of Communications. Section Instructor.

Sociology – SOCI3214

A sociological examination of the principal ways communication can be understood. It will analyze both theoretical considerations and applied issues in communication studies.

Special Topics in Canadian Politics. Guest Lecturer.

Political Science - POLS4211

Advanced study of a specific subject in Canadian politics.

Introduction to Sociology. Guest Instructor.

Sociology – SOCI1001

Surveys the basic concepts, theories and analytical methods of sociology and introduces students to sociology as a way of thinking.

RECENT CONFERENCE/PAPER PRESENTATIONS

Digital Technology and the Changing Folk Music Landscape, October 2014
Singer/Storytellers International Symposium, Cape Breton, Canada

Founding the University of New Brunswick Saint John MakerSpace, June 2014
Canadian Higher Education Information Technology Conference, Charlottetown, Canada

Social Media Strategies in the Academy, July 2014
The Summer Institute, Saint John, Canada

Furlong, K., Jamieson, B., Yetman, L., Bailey, J., Secco, L., & Hansen, W. Using Technology to Support Teaching and Learning: Understanding User Perceptions in the Access and Use of Information Atlantic Region Canadian Association of Schools of Nursing

Conference Theme - Nursing Education: Casting Your Mind Forward. Corner Brook, NL (Oral Presentation) - June 2013

Crowdsourcing University Information Technology Support Services, June 2013
Canadian Higher Education Information Technology Conference, Saskatoon, Canada

Hansen, W., & Furlong, K. Using Technology to Support Student Learning: Understanding User Perceptions through Media Technology and Sociological Theory. Association of Atlantic Universities Teaching Showcase 2012. Fredericton, NB (Oral Presentation)

Effectively Using Zotero as a Collaborative Research Tool, March 2011
The Winter Institute, University of New Brunswick, Saint John, Canada

Governmentality and the McKenna Miracle, February 2011
Social Sciences and Humanities Conference, University of New Brunswick, Saint John

University Commons: Advancing the Art of Information and Technology Delivery, June 2010.
Canadian Higher Education Information Technology Conference, St. Johns, Newfoundland

Enhancing the Student Experience Through Technology Support, June 2010.
Atlantic Association of Universities and Colleges Conference, Saint John, New Brunswick

Focusing Information Technology Services on Students, June 2008.
Canadian Higher Education Information Technology Conference, Calgary, Alberta

Redeploying IT Services for Undergraduate Students, June 2008.
Atlantic Universities and Colleges Technology Conference, Fredericton, New Brunswick

ACHIEVEMENTS AND AWARDS

2010-2011 Part Time Graduate Student Merit Award
2009-2010 Deans List For Academic Standing, Graduate Studies (IDST)
2009 First Division Graduate, Bachelor of Arts, Information and Communication Studies Program
2008-2009 Deans List for Academic Standing (BA-ICS)
1998 IBM Canada Award of Excellence, ISM Travel and Tourism Division
1996 Award of Excellence, Graduation from Electronics Engineering Technologist program
1994 Deans List Standing in Electronics Engineering Technology Program
1993 Saint John High School Honours Graduate

PROFESSIONAL HISTORY

Manager, Academic Technology Services

July 2014 - Present

University of New Brunswick, ISS, Research and Learning Services

Provide leadership, direction, and career development for support staff providing comprehensive technology solutions to students on the UNB Saint John campus. The Academic Technology Services group provides technology support and stewardship of

all student facing campus technology including the Hans W Klohn Commons, all campus undergraduate computers labs, and assistive technology.

This position also provides leadership and direction on innovative projects and initiatives which serve to enhance the overall academic experience. Current projects include crowdsourcing, MakerSpace, augmented reality, and 3D printing. The position is also part of the ISS Leadership team which is responsible for providing overall departmental direction in support of the UNB mission.

Finally, this position is responsible to enhance research and learning services while also raising the profile of UNB to the broader community. Initiatives supporting this responsibility include chairing interdisciplinary research conferences (Bailiwick 2012, 20013, 2014), chairing IT centric conferences (AUCTC 2013), and hosting community events which engage the student population with the broader community (2014 Civic Hackathon).

Manager, UNBSJ Student Technology Center

August 2008 - July 2014

University of New Brunswick, ISS

Development, creation and management of the Student Technology Center (STC) Department which maintains and supports seven undergraduate computing lab facilities, includes two distinct comprehensive Help Desks, and provides personalized support on a broad range of computer equipment, software applications and services, training and documentation. The mandate of the STC is to play a pivotal role in eliminating the perceived technology barriers that undergraduate students face in pursuing their degree.

The STC Manager is accountable for the complete operation of the STC service point; a high traffic support area designed specifically for providing comprehensive technology support to undergraduate students. This includes providing budget direction, staff leadership and team development to the diverse group of staff at the STC. Staff includes up to 2 full time personnel and approximately 14 student employees with various skill level and cultural background. Major initiatives included leading this team through in the creation and development of the Student Technology Center as well as the deployment and development of the University Learning Commons.

Manager, UNBSJ Information Technology Help Desk

August 2008

University of New Brunswick, ISS
NB

Sept 2004 –

Saint John,

Management of the Information Technology HelpDesk which provides comprehensive technology support to 3000 students and 275 Faculty/Staff members of the University. Major initiatives include building a comprehensive support model, comprising of various support units, and the implementation of a campus wide trouble ticket tracking system.

Network Systems and Services Analyst**Feb 1998 – Sept 2004**University of New Brunswick, ITS
Saint John, NB

Installation, administration, and configuration of network servers and network operating systems providing essential technology services to 3000 students and 275 staff members on the UNBSJ Campus. This position required extensive knowledge of Novell and Microsoft network operating systems and a current Microsoft MCSE and Novell CNE were critical requirements.

Design and implementation of network infrastructure was a key component of this role. This included installation, testing and troubleshooting of fiber-optic and copper cabling, installation of hubs and switches to service remote campus buildings, and management of the enterprise backup solution. Major initiatives included design and implementation of a campus wide wireless network.

Design, develop and maintain ITS departmental web pages as a source for support applications, technical information and public information pertaining to the daily operations of ITS.

**Systems Support Specialist
1998****June 1996 - Feb**Information Systems Management Canada (ISM Canada)
Saint John, NB, IBM Global Services, Travel and Tourism Division

Provide LAN/WAN software hardware support for approximately 500 customers in a Novell 4.11 Token Ring environment. This included installation of network servers, hubs, switches as well as desktop software, computer and printer support. Service agreement included off hours technical support for customers throughout Atlantic Canada including Atlantic Canadian Airports and travel agencies. Collaboration with technicians, engineers, across Canada was critical in troubleshooting LAN/WAN problems. Perform installation and field support duties in various networking environments throughout Atlantic Canada, often on short notice.

**Network Technician
98****June 96 - Feb**

New Brunswick Community College, Saint John, NB

Provide LAN, software hardware support for faculty, staff and students in a campus network environment. Installation of network servers, hubs, switches as well as desktop software, computer and printer support.

INTERESTS AND HOBBIES

Host of a weekly travel related radio talk show on Local 107.3FM, Saint John

Author of a bi-weekly technology column for 'The Baron' newspaper

World travel including backpacking trips through Africa and Europe

Singer, songwriter and performer

Various team and individual sports including basketball, hockey, badminton, golf and skydiving