# RETHINKING STRATIFICATION IN POST-SECONDARY EDUCATION

# RETHINKING STRATIFICATION IN POST-SECONDARY EDUCATION: ORGANIZATIONALLY MAINTAINED INEQUALITY

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## Abstract

Decades ago, Boudon theorized that highly differentiated education systems would generate higher degrees of inequality than would more homogenous counterparts. In highly differentiated systems, at each point where students were afforded the freedom to select among institutions, Boudon believed that family-based knowledge and capital would produce stratified choices. The presence of differentiation would ensure that students from different SES backgrounds would be distributed in a non-random fashion across education systems. Contemporary theories of stratification within the sociology of education have astutely examined the role played by differentiation. Theories of effectively maintained inequality (EMI) and maximally maintained inequality (MMI) have led the way in this respect. MMI, for example, has theorized the role played by credential levels, depicting privileged students as migrating towards progressively higher credential tiers, and the organizations that service them. The EMI tradition, on the other hand, points to differences in organizational prestige, noting that privileged students migrate to the elite schools within any credential tier. Both theories highlight important dimensions of the hierarchical structure of education and how they can inform our understanding of how individual level stratification occurs through them. That being said, these theories focus only on two basic dimensions of organizational differentiation. They also tend to focus only on differentiation as it occurs within the university sector.

In this dissertation I bring stratification research into conversation with organizational theory in the hopes of developing a more sophisticated and holistic

understanding of differentiation, and thus, social stratification through PSE. I draw on insights from organizational theories to argue that, beyond credential tiers and prestige, PSE organizations are differentiated by the type of relationships ('stratified connections') they share with their surrounding environments, organizational networks and organizational sagas. I demonstrate that these often ignored mechanisms actively magnify organizational inequalities that exist within and across sectors of PSE.

I adopt a mixed methodological approach for this dissertation. To examine organizational relationships with external environments, I draw upon sources documenting the characteristics of economic regions, as well as institutional data on program offerings and organizational structures. To examine organizational networks, I use a qualitative comparison of affiliation data, association documents and interviews. Lastly, to examine disparities in organizational sagas and symbols, I examine promotional materials available on institutional websites as well as other official documents. Such a versatile approach is needed given both the diverse group of questions I explore and the scope of my analysis. Addressing all sectors of Ontario PSE forces me to creatively overcome numerous data deficiencies.

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# Table of Contents

# List of Figures

# List of Tables

# Chapter 1

## Introduction: Expansion, Differentiation and Inequality in PSE

Decades ago, Raymond Boudon (1974) noted that "any school system, whatever its apparent flexibility, forces the individual, at *x* times in his schooling, to decide whether to remain on the royal road to college, to aim for the more prestigious institutions of higher education, and so on" (p. 108). At each of these intersections in a student's life course, when they were forced to select among the many pathways within the field of education, Boudon believed that their decision would be influenced by "not only individual preferences, but also, social position, economic and cultural resources, and local opportunity structures" (Thompson & Simmons, 2013, p. 751). Hence, Boudon (1974) believed, like other sociologists after him (Bowles & Gintis, 1978; Mullen, 2010), that educational decisions made by students were shaped by socioeconomic background, even after controlling for student grades and ability (Porter & Porter, 1979; Radford, 2003). These were decisions that would, in turn, channel where students would be allocated within the occupational hierarchy, essentially contributing to the process of social reproduction. According to Boudon's (1974) logic, although education could be made further accessible to the populace through expansion, the *differentiation* that existed within systems would ensure that social stratification would continue to be partially determined by socioeconomic background[1].

[1] Differentiation, it is important to note, can be understood to occur along a number of different dimensions across PSE. First, at the system level, there is *between* sector differentiation. Within Ontario PSE, for example, there are private universities, public universities, public colleges and private career colleges, all of which constitute unique organizational types. These sub-populations are hierarchically stratified according to resources, prestige and the occupational prospects they provide students with. Secondly, there is also

Since Boudon (1974), numerous sociologists have directed their energies toward the examination of educational expansion and social inequality. This task has included refuting what are framed as remnants of the structural-functionalist framework. This perspective posited that educational expansion was primarily a response to technological change and emerging labour market demands (Collins, 1971; 1979). Functionalists believed that the increasing technological complexity within society made it necessary for individuals to spend longer periods of time in schools. In the technocratic view of expansion, educational systems were portrayed as playing a largely meritocratic sorting function, whereby individuals were allocated to positions within the occupational hierarchy based on their 'intelligence' and 'motivation' (Collins, 1971; 1979; also see Davis & Moore, 1945)[2]. As a result, they saw educational expansion as progressively lessening the traditional influence of ascribed characteristics, such as race, class or gender, on the process of social stratification (Boliver, 2011, p. 230).

This functionalist prediction has not exactly panned out in recent decades. Despite vast expansion, educational research has repeatedly found that disparities in achievement persist (Davies & Guppy, 2013). Within the Canadian context, this is most noticeable across socioeconomic lines. For example, while roughly half of youth from the top income quartile attend university, only about a third from the bottom quartile reach such

*within* sector differentiation. Within the public university sector, for example, there are differences not only in prestige and resources, but also, size, age and primary functions. Meanwhile, within the private career college and private university sectors, there is also a high degree of differentiation occurring with respect to disciplinary specialization. However, not all forms of differentiation are equally consequential for student outcomes. The influence of organizational size on student outcomes, for example, is not entirely clear.

[2] Or, in other words, that "schools could promote meritocracy by rewarding the best and the brightest students, regardless of their social origins, thus levelling the playing field and extending access to high-paying professional and managerial positions for all" (Davies & Guppy, 2013, p. 112).

level of attainment (Davies & Guppy, 2013, p. 114). In addition, students from higher socioeconomic groups are "more likely to enter selective universities and lucrative programs within selective universities" (Davies & Guppy, 1997, p. 1433). Inequalities also persist along gender lines, research tells us that although female participation in PSE has increased dramatically, they "are still only a small minority in what are known as STEM fields" (Davies & Guppy, 2013, p. 141). Similarly, although particular ethnic groups (e.g. East Asian) have become overrepresented in PSE, others (Latino, African American, Aboriginals, etc.) continue to lag behind (Thiessen, 2009). Hence, for the most part, rather than eradicating the influence of ascribed characteristics on educational attainment, educational expansion appears to have only marginally reshaped the traditional outcomes of social stratification.

These persistent inequities outlined above are shrouded by increased system complexity. Contemporary education systems have expanded substantially during the course of the 20$^{th}$ century. It is undeniable that more students, including those in traditionally underrepresented groups, are acquiring higher levels education than before. Yet expansion, as I will discuss in greater detail in subsequent chapters, also brings on increased levels of organizational differentiation. This means that contemporary students are acquiring higher levels of education, but the type of education which they are acquiring is less homogenous than before (Bastedo & Gumport, 2003). Whereas a century ago PSE students acquired, for the most part, similar credentials and educational experiences, today they access a more differentiated set of credentials and experiences that provide highly variable returns on investment.

## Enter EMI and MMI

Hardly surprised by these developments, those adopting non-functionalist views have proceeded to study how 'mass' (Boli, Ramirez, Meyer, 1985; Meyer, Ramirez, Soysal, 1992) or 'universal' (Trow, 1970) PSE continues to stratify individuals along traditional lines (socioeconomic, gender, ethnicity, etc.). Within said context, two influential theories have emerged to dominate contemporary discussions. The first is *maximally maintained inequality* or MMI (Raftery & Hout, 1993). This theory proposes that as expansion allows under-represented groups to enter a credential tier, high-SES students feel pressure to migrate to subsequent tiers to maintain their advantage (Raferty & Hout, 1993). This transition is facilitated by what Alon (2009) calls 'adaptation', a process by which the family unit adjusts to increased competition within education and the labour market to ensure the success of their offspring[3]. This competitive process eventually leaves disadvantages populations in relatively similar positions vis-à-vis high-SES groups (Davies & Guppy, 2013, p. 101).

The second theory that has emerged to explain stratification through contemporary education is *effectively maintained inequality* or EMI (Lucas, 2001). This alternative theory suggests that once a "level of schooling becomes nearly universal… the socioeconomically advantaged seek out whatever qualitative differences are at that level and use their advantage to secure quantitatively similar but qualitatively better education" (Lucas, 2001, p. 1652). Hence, it highlights not only vertical, but also, horizontal differentiation across systems. Alon (2009) takes this to mean that, in concrete terms:

[3] This process has been catalogued extensively within the American literature (see Demerath, 2009; Lareau, 2000; Stevens, 2007).

> "…as a larger share of high school graduates reaches some form of higher education, class differences in access to selective college destinations becomes more prominent to preserve the status hierarchy. Well-off youth gravitate toward the more selective schools, while the underprivileged are increasingly admitted only to less prestigious institutions" (p. 732).

This, of course, is an empirical pattern that has been documented many times by scholars adopting diverse theoretical views (Brint & Karabel, 1991; Clark, 1960; Karabel, 2005; Khan, 2010; Mullen, 2010; Stevens, 2007, etc.).

These two explanations of stratification within contemporary education follow Boudon's (1974) lead in that they usefully identify the role that differentiation plays in the process of social stratification. Yet, as a review of their work reveals, they tend to focus only on two basic dimensions (credential tier/prestige) of organizational differentiation. In doing so, they overlook other important dimensions along which PSE organizations differ, a trait that also characterizes most work on the subject within the sociology of education, with few notable exceptions (e.g. Brint et al, 2006; Hermanowicz, 2005; Scott, 2010). As Kirst, Stevens & Proctor (2010) note, sociologists have been generally content with conceptualizing differentiation within PSE in basic ways, taking into account status, as well as more recently, financial resources (e.g. Davies & Zarifa, 2012). This tendency towards clarity and simplicity often generates rudimentary images of the hierarchical structure of PSE systems, with "selective schools at the 'top' and ever less selective schools toward the 'bottom'" (Kirst, Stevens & Proctor, 2010, p. 7). Yet, there are other consequential ways in which PSE organizations can be understood to differ from one another; financial resources and status/prestige constitute only two possible options.

## Organizational Theory, a potential resource

Although largely underutilized within stratification research, the insights produced by organizational theorists can enrich our understanding of differentiation. Concepts developed by organizational theorists, such as environments (Meyer & Rowan, 1977; DiMaggio & Powell, 1983), niches (Hannan & Freeman, 1977; 1984), sagas (Clark, 1972; 1983) and networks (Granovetter, 1985; Uzzi, 1996), can be employed to generate an enhanced understanding of differentiation across PSE, one that emphasizes alternative dimensions across which organizations are stratified. These are, by and large, dimensions that have thus far escaped the gaze of contemporary stratification scholars.

Although potentially useful for the study of stratification, at both the organizational and individual level, those versed in organizational theory have traditionally demonstrated little interest and, at times, hostility towards the study of individual level stratification. Leading organizational theorists have not been shy to dismiss the efforts of their counterparts as the "earnest examination of surface variation" (Stevens, 2008, p. 108) and, in addition, highlighting the many "evidentiary embarrassments" which plague the sub-field (see Meyer, 1986). As expected, the "swagger and iconoclasm inherent in such a stance" has led to general animosity between these two camps (Stevens, 2008, p. 108) and thus, to the absence of what could be a beneficial, mutually corrective relationship between the two streams of thought[4].

[4] By mutually corrective, I do not mean to categorize either of these theoretical traditions as critical or professional, etc., as others (Burawoy, 2005) have when advocating for more amicable relations between warring groups. That being said, I am advocating for a similar type of relationship as that theorized by Burawoy (2005), whereby better relationships between the two groups could enhance the quality of the knowledge produced by each.

## Synthesizing Stratification and Organizational Theorizing

The idea that insights from stratification research and organizational theory could be blended to create an enhanced theory of stratification within PSE first came to my attention after reading an unpublished paper by Davies & Zarifa (2006). They proposed that the new institutionalist perspective (i.e. Meyer, 1977; DiMaggio & Powell, 1983), in particular, given that it focused on cultural norms which regulate the structural form of, and processes performed by, education systems, had the potential to inform our understanding of why stratification occurs as it does across different nations. They proposed that new institutionalism could be used to ground the process and character of stratification.

To explain their line of reasoning, Davies & Zarifa (2006) pointed to the fundamental differences that exist between contemporary public PSE and K-12 systems, such as the different degrees of differentiation tolerated within each. In public K-12, they proposed that strong norms actively worked against the development of substantial differences financial resources, leading to a 'flat' organizational structure. Existing disparities were said to be produced by non-standard activities, such as school specific fund-raising or donation drives. In comparison, PSE organizations were afforded greater freedom to engage in entrepreneurial activities (seeking partnerships with corporate entities, etc.)[5] that allowed them to substantially differentiate themselves from peers. This led to the evolution of a highly stratified organizational field with vast differences in not only resources, but also, prestige (and other dimensions too). Organizational theory was endorsed by Davies & Zarifa (2006) as constituting a missing 'piece of the puzzle' for

[5] For more on this, see Slaughter & Leslie (1997) or Slaughter & Rhodes (2004).

stratification scholars wishing to understand how stratification occurs through any given system.

This dissertation will build on this insight. It will ask: How can we better understand social stratification through a more nuanced understanding of consequential differentiation within Ontario PSE? Currently, we understand how organizational differences in credential tiers and prestige influence the process of social stratification. But, borrowing insights from organizational sociology, can we construct an enhanced understanding of this process? In response to these questions, I develop what I term a theory of *organizationally-maintained inequality* (OMI). This alternative theoretical lens perceives students as not only 'hopping' up credential tiers or across levels of prestige, but also, as traversing across a complex organizational field populated by entities that 1) possess ‘stratified connections’ with their surrounding environments, 2) are embedded in unique network structures, and 3) possess unique organizational symbols. These are consequential differences that not only stratify organizations *within* and *between* sectors of Ontario PSE, but also influence their ability to bestow advantages to their graduates.

## Roadmap for the dissertation

In the following chapter, I begin by providing a brief history of the Ontario PSE system. Given that there is an existing literature (McKillop, 1993; Axelrod, 1982; 1989; 1997, etc.) within the *history of education* that already documents the minute details of the system's history, this chapter will instead selectively catalogue broader transformations and the emergence of novel organizational structures unique to Ontario PSE. This will include analyzing features of the system that are central to developing an

enhanced, theoretically-enriched understanding of organizational differentiation, such as the development of the system's normative environment, the evolution of linkages between the system and external stakeholders (government, industry, etc.), as well as other associated topics.

I proceed in Chapter 3 to discuss the specific organizational theories that I will draw on. To understand the stratified connections between PSE organizations and their surroundings, I blend insights from new institutionalism (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Davies & Quirke, 2007, etc.) and population ecology (Hannan & Freeman, 1977; Hannan & Freeman, 1984, etc.). I start by using these theories to explain how and why organizations behave differently in response to their surrounding environments. My reasoning is that public universities, being older organizations situated in institutional environments, are largely sheltered from local pressures. Meanwhile, at the other extreme, private career colleges (PCCs), located in highly technical and marketized environments, need to be more responsive to local exigencies. The upshot of this dynamic is that public universities are capable of 'rising above' their locales and fostering robust international reputations, allowing them to grant credentials to their graduates that bestow them with proportional status.

I also explore two additional mechanisms that actively reinforce the hierarchical structure of Ontario PSE. First, I blend network theory (Uzzi, 1997) with more general theorizing about organizational status (Podolny, 2010; Lifschitz, Sauder & Stevens, 2014) to argue that network structures cement, if not magnify, differences between PSE organizations. I show that, public universities and colleges, given their relatively older

age, are located in highly dense and embedded networks. PCCs and private universities, on the other hand, given their relative youth, are located in sparsely connected networks. I argue that such network locations, and their corresponding degrees of embeddedness, afford organizations within them with distinct competitive advantages, facilitating the acquisition of information, resources and legitimacy.

Second, I combine insights from old (Clark, 1971; 1972) and new institutionalism (Meyer & Rowan, 1977; 1978; DiMaggio & Powell, 1983) to argue that Ontario PSE organizations are stratified by their symbolic resources. I highlight that older public universities possess powerful and storied symbols, including crests, coats of arms and mottos that allow them to easily signal legitimacy through promotional materials. Meanwhile, newer public universities, as well as public colleges and PCCs, lacking comparable symbolic resources, struggle to communicate legitimacy to observers through the usage of more modern logos and technical performance indicators.

In chapter 4, the eclectic methodological approach employed in this project is reviewed. In sequential order, the data sources and analytical techniques used in each empirical chapter are explained and justified. I catalogue how secondary sources documenting the characteristics of economic regions, as well as institutional data on program offerings and internal structures, are used to examine the relationships between PSE organizations and their surrounding technical and institutional environments. I also discuss how a qualitative comparison of affiliation data, association documents and interviews is used to examine organizational networks. Lastly, I describe how the content of online promotional materials is leveraged to analyze how PSE organizations signal

legitimacy to external observers.

In chapter 5, I begin to lay out the basic hierarchical structure of Ontario PSE. I examine *between* and *within* sector types of differentiation along four basic dimensions: (1) student flows, (2) student outcomes, (3) organizational resources and (4) organizational prestige. To analyze the first two forms of differentiation I rely predominantly on a host of secondary sources produced by local researchers. An analysis of the latter two forms of differentiation is informed by a variety of measures drawn from my own data set. This initial exploration of the hierarchical structure of Ontario PSE serves as a foundation for the remaining empirical chapters, where I strategically superimpose insights from organizational theories onto traditional conceptions of organizational stratification within Ontario PSE to enhance understandings of the topic.

The following three chapters (6, 7 and 8) constitute the core contributions made my dissertation. In chapter 6, I map out *stratified connections* across the Ontario PSE system, empirically demonstrating that the different organizational types within the system interact with their surrounding environments in unique ways. At one extreme, public universities respond almost exclusively to lucrative opportunities offered by their local communities, mainly by developing research centres and programs that correspond with major economic entities. They are, for the most part, shaped by global normative standards. At the other end, PCCs are more tightly bound to their local surroundings. But, their adaptation is not direct, it has an anticipatory element (Brint & Karabel, 1991) that drives them to target niches not occupied by public competitors.

In chapter 7, I demonstrate that variable degrees of embeddedness characterize

areas of the Ontario system. I show that public universities and colleges are located in the most highly embedded areas, where they interact regularly with peers for a number of technical (credit exchange, applications system, etc.), political (advocacy, etc.) and social (athletics, etc.) purposes. Meanwhile, private universities and career colleges are, for the most part, situated in sparsely connected areas. Most operate in relative isolation, or within small network clusters (i.e. specific program area associations). I explain that these differences reinforce the hierarchical structure of the Ontario PSE system given that embeddedness provides organizations with distinct advantages, facilitating the acquisition of valuable resources, such as information (Uzzi, 1997;1999), legitimacy (Baum & Oliver, 1991) and status (Lifschitz, Sauder & Stevens, 2015, Podolny, 2010).

In chapter 8, I argue that public universities have had the opportunity to experience conflict, develop sagas and develop powerful organizational symbols. I show that they use these symbols as resources in order to signal their legitimacy to observers. Lacking such powerful symbols, younger public universities and colleges adopt a much more corporate image, dropping coats of arms from their logos and opting for simple, and at times futuristic-looking, logos. PCCs, lacking any sort of brand recognition, opt for more technical signals of their quality, including testimonials and statistical performance indicators. I suggest that the distribution of symbols and sagas across the system stratifies how PSE organizations are able to communicate legitimacy to potential members. This, in turn, helps to reproduce existing hierarchical structures within the system.

In the final chapter, I discuss the implications of my findings. I argue that organizational theorizing complements existing EMI and MMI theories of stratification. It

provides an understanding of consequential and deep fractures that demarcate organizational groups across PSE. Through an organizational lens, we can observe that privileged students not only migrate to more elite schools and higher credential tiers, but also to schools that are more inert, embedded and driven by powerful symbols. Beyond these theoretical contributions, I also discuss the implications of my findings for contemporary policy discourse within Ontario PSE (Hicks et al, 2013; Weingarten et al., 2013; Weingarten & Deller, 2010). I argue that despite calls for increased differentiation, Ontario PSE can already be perceived as being a highly diverse organizational field.

# Chapter 2

## A Brief History of Ontario PSE

This chapter presents a short, selective history of the Ontario post-secondary education (PSE) system. Rather than attempting an exhaustive history of Ontario PSE, I draw on some historical literature (McKillop, 1993; Axelrod, 1982; 1989; 1997, etc.) to document the emergence of important characteristics of the structure of Ontario PSE, including features that are of clear consequence to the study of organizational stratification. I use secondary historical sources in order to catalogue changes in the system's normative environment, organizational differentiation and interaction with external stakeholders, among other consequential topics[6].

The history of Ontario PSE is one of dynamic external influences. Through the decades, actors like government, religious denominations and industry have promoted alterations in its structure. The influence of some of these actors, such as religious denominations, was short-lived. Meanwhile, that of others, like government, has been relatively constant. Combined, these pressures have produced a system that is stratified in a unique way, one which differs substantially from that of its more market-driven peers south of the border. At the core of the Ontario system is a group of relatively old universities who have developed into the most powerful and prestigious entities. Variation exists within this organizational type, but as a whole, it tends to reign supreme over a

[6] The historical narratives presented in this chapter reflects scholarship by historians of education (McKillop, 1993; Axelrod, 1982; 1989; 1997, etc.), not sociologists. Although an effort is made to contextualize and 'read sociology' into this history, my goal is not to refute the functionalist logic which occasionally exists in historical accounts. Several authors (Bowles, 1978; Collins, 1979) have already done this, demonstrating that a variety of non-technical factors that influence the evolution of education systems.

variety of younger, smaller and low-status counterparts across three other sectors, including public colleges, private religious universities and PCCs. Below, I document the evolution of these unique features of Ontario PSE, starting with the early years of the system.

## The Emergence of the Field: Conservatism and Religion (1790s-1890s)

The history of PSE in the region of Ontario can be traced back to when the jurisdiction was a young frontier colony. McCutcheon (1941) notes that "long before the virgin forests were fully conquered and despite the difficulties associated with the financing of elementary and secondary schools in the pioneer days, the subject of higher education not only engaged the minds of the colony's administrators and leading educationists but also made a strong appeal to a considerable section of the inhabitants" (p. 237)[7]. Despite such interest, establishing PSE organizations at this early historical juncture was an arduous process. Institutional founders faced struggles at virtually every turn. The construction of Acadia College in 1839, although occurring in the province of Nova Scotia, is described by Harris (1975, p. 34) as exemplifying some of the "typical" challenges faced by those attempting to establish PSE organizations within frontier colonies. Harris (1975) notes that after fruitless attempts to raise money from the

[7] The emergence of PSE organizations in the mid-western United States also appears to reflect a similar logic. Brown (1995) notes that "the early presence of colleges seems especially odd... Surely constructing canals and roads, fencing off fields from ranging livestock, irrigating dry lands and draining swamps, plowing tough virgin fields and prairie grasses, lumbering and transporting lumber to untimbered regions, mining for heating fuel, fire prevention, policing and efficient communications technologies were more pressing needs of frontier settlements than colleges" (p. 86). Thelin (2004) also comments on the practise of "college-building" relative to other levels of education in the American context, noting that it occurred "prior to, and with more enthusiasm than, the initiative to establish primary- and secondary-school systems." (p. 68).

Maritime community to finance the construction of the college, founders were forced to solicit raw materials instead. This allowed them to collect the “nails, paint, glass, oil, putty, and sheet metal” necessary for the physical construction of the college's building (Harris, 1975, p. 35). Beyond the scarcity of capital, there was also a lack of skilled craftsmen to carry out the work. For example, the first building of King's College, in Windsor, had to be completed with wood given than a competent mason could not be found within the surrounding area (Harris, 1975, p. 34).

This description of the physical facilities utilized by early Canadian universities demonstrates that they were a far cry from their American counterparts, characterized by their “red brick Georgian buildings with slate roofs, white trim, and mullioned windows” (Thelin, 2004, p.1). It also rendered them different from their “Medieval forerunners, for example, Bologna, Paris, Oxford, Cambridge, Leipzig, and Louvain” after whom they were often modelled (Brown, 1995, p. 74). Given such early characteristics, early Ontario PSE organizations can be perceived as entering the broader field of PSE in a way now familiar to contemporary education scholars (Brint & Karabel, 1991), unable to match their older, more prestigious counterparts across a number of different dimensions, including not only financial capital, but also, physical form.

Given the hurdles faced by the founders of colleges and universities during this period, it is interesting to note the factors that motivated them. Two distinct types of rationales appear to be prevalent during this era, both of an arguably “conservative” nature (Axelrod, 1997, p. 5). Individuals in government, such as Upper Canada’s first Lieutenant Governor, John Graves Simcoe, are described as being aware “that armies and

fortifications were not in themselves sufficient to guard against the potential intrusion of the republican institutions and democratic excesses" radiating from the newly formed United States (McKillop, 1993, p. 6). Individuals like Simcoe are described as being interested in establishing a university to "inculcate British Customs, Manners & Principles in the most trivial, as well as serious matters in order to assimilate the colony with the parent state" (McKillop, 1993, p. 5). Simcoe believed that educating the next generation of Canadians in England was a cost-prohibitive solution, and that individuals educated in American universities would not be likely to "imbibe that attachment to our constitution in Church and State, that veneration for the Government of their country, and that loyalty to their King, to which it is so particularly necessary in the present time to give all the advantages of early predilection in order to fix them deeply both in the understanding and the heart" (Harris, 1975, p. 29). PSE became part of a "broader agenda" to protect British culture and traditions from American influence (Jones, 2014, p. 2). Such historical sources make it clear that, since its conception, the Ontario system has been imbued by the influence of the state, contrasting other systems where private entities have played a more prominent role in institutional births.

Such sentiment on the part of political figures made the colonial government receptive to the founding of PSE organizations within the jurisdiction. Yet, it is important to note that though 'receptive', it nonetheless played a prominent role in regulating the system's expansion. Kaufman (2009) notes that this is particularly noticeable when one compares the traditional roles played by Canadian and American governments in the regulation of PSE expansion during the 19$^{th}$ century. Kaufman (2009) notes that in "the

aftermath of the American Revolution, the so-called corporate colonies- Massachusetts, Connecticut, and Rhode Island – reconceptualised a key aspect of the legal fiction of corporations: *the ability to incorporate*" (Kaufman, 2009, p. 8). These states "made incorporation something that nearly everyone could acquire" (Kaufman, 2009, p. 8). Thus, during the 19th century in the United States, "anyone with enough money to find office space and hire teachers could start a corporation of higher learning" (Kaufman, 2009, p. 281; also see Brown, 1995, p. 77). This was markedly different from the realities faced by those attempting to establish PSE organizations in Ontario. The English common law system which governed Canada until the later stages of the 19th century perceived incorporation "as monopoly rights granted by the sovereign" (Kaufman, 2009, p. 8; Brown, 1995). Hence, it was not a right, but rather, a privilege that had to be earned[8]. This characteristic of the legal environment in which the system was birthed insulated it from an onslaught of private PSE organizations, a feature that continues to this day (Pizarro Milian & Hicks, 2014)[9].

This distinct legal framework shaped the early expansion of Ontario PSE. Brown (1995) notes that the degrees of control that governments exert over education systems is often consequential for the patterns of expansion that exist across nations (p. 51). He notes that "in the absence of centralized educational control, it is possible for an

[8] This system was in place in the United State prior to the American Revolution and is described as generating many difficulties for the founders of its system's first HE organizations. The president of Harvard University, for example, was forced to travel to London on a trip which lasted three years in order to acquire a royal charter directly from the king (Kaufman, 2009, p. 39). Without such royal charter, Kaufman (2009) notes that HE organizations would be forced to operate without a series of legal privileges, including, but not limited to, insurance of "perpetual succession", or in other words, a guarantee that "the institution would outlive its founders" (p. 38).

[9] This is particularly true of the degree granting sector, where strict regulations and review processes (PEQAB) make it very difficult for new private entities to enter the market.

educational system to become 'top heavy', with a proliferation of higher educational institutions created by competing groups" (p. 52). This was exemplified by the trajectory of the American PSE system (see Collins, 1979). Meanwhile, in places where control has been largely centralized, such as the province of Ontario, along with several European nations, PSE expansion occurs at a relatively slower pace and in accordance with expansion at lower levels of education.

Now, although playing a prominent role in the emergence of Ontario PSE, politicians were not the only actors involved in the formation of this organizational field[10]. As Thelin (2004) notes in his discussion of American PSE, during this period "the colonies were a Christian world" (p. 13). Many of Ontario's earliest universities were established by Christian religious leaders with the intention that they would serve as mechanisms which would pass on the core religious beliefs of their denominations to future generations. The University of Toronto, for example, first established as King's College in 1827, was the product of the efforts of Anglican Bishop John Strachan (University of Toronto, 2013). Western University, established in 1878, was also the product of Anglican efforts lead by Bishop Isaac Hellmuth (Western University, 2013). Oblate Catholic priests established the College of Bytown, known today as the University of Ottawa, in 1848 (University of Ottawa, 2013). Jesuits followed suit in 1857, establishing Assumption College, known today as the University of Windsor (Assumption University, 2013). The Presbyterian Church of Scotland provided funds vital to the

[10] As a reminder, this paper adopts the DiMaggio & Powell (1983) definition of the organizational field, which includes "those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products" (p. 148)

establishment of Queen's University in 1841(Queen's University, 2013). Similarly, the establishment of McMaster University in 1887 was made possible by funds provided by Baptist Senator William McMaster (McMaster University, 2013).

Thus, the desire on the part of religious leaders to establish institutions that would "teach and engage the children to know God in Jesus Christ, and to love and serve him in all sobriety, godliness, and righteousness of life" (Thelin, 2004, p. 19; McKillop, 1993), appears to have been an additional driving force behind the early expansion of Ontario PSE. This overwhelming demand for denominational PSE organizations was a strong force that would persist within Ontario for decades, fading only during the early 20th century, with Wilfrid Laurier University being the last existing organization of significant size to be established by a religious (Lutheran) group in 1911[11].

The influence of religious bodies in the early development of the PSE system in Ontario is visible not only through the religious affiliations of the organizations previously mentioned, but also, through the nature of the normative environment that emerged during such a period to engulf the organizational field. In being both the products of, and financially dependant on, religious bodies, PSE organizations came to adopt structures and practises which corresponded with that of their patrons. Yet, it was more than mere "ceremonial" compliance (Meyer & Rowan, 1977) triggered by strong resource dependency (Pfeffer & Salancik, 1978). During the early years of PSE in Ontario, when denominational universities and colleges were the norm (Jones, 2014), the

[11] Although the impetus for religious higher education has subdued, there are currently 17 private religious universities in the province (CICIC, 2013). These, though, tend to be relatively small institutions focusing almost exclusively on religious training rather than becoming comprehensive universities.

organizational field was staffed predominantly by 'men of god'. Hence, King's College was staffed mainly by Anglicans, Bytown College by Catholics, and so forth depending on the religious affiliation of the organization. These individuals served as vessels, carrying with them the ideas and cultural beliefs of their Christian denominations into the PSE system[12]. Once there, these ideas became institutionalized, not only allowing the religious and PSE normative environments to become increasingly alike, but also, shaping the future development of the PSE system.

Though differences existed in the religious beliefs of the denominations involved in Ontario PSE during the 19th century, there was nonetheless considerable uniformity across several important dimensions. One could attend any local PSE organization and expect a similar experience. McKillop (1993), for example, notes that all "aspects of the students' lives, at whatever college, were governed by strict forms of domestic and intellectual regimentation" (p. 90)[13]. Students could expect to be "subjected to precise rules as to chapel and meals, and going-out and coming in, and generally to more or less restriction" of their liberty (p. 90-91). Hence, the rhythm of student life during such a period came to closely resemble the life of individuals, such as monks or priests, which populated the religious system from which the PSE system acquired its financial support and instructors. Beyond student life, practises and culture within the religious system also

[12] From an organizational theory standpoint, this would constitute what DiMaggio & Powell (1983) have termed as 'normative isomorphism', whereby a "pool of almost interchangeable individuals who occupy similar positions across a range of organizations and possess a similarity of orientation and disposition that may override variations in tradition and control that might otherwise shape organizational behaviour" (DiMaggio & Powell, 1983, p. 152).

[13] This appears to be descriptive of higher education across North America during this period. Brown (1995) notes that universities during this period did not tend to offer their students a very "pleasant social experience" (p. xi).

came to influence popular conceptions of what was considered adequate behaviour for faculty and aspiring scholars. Romanticized images of the medieval monk, working late into the night under candlelight, became imprinted into understandings of what it meant to be a 'true scholar'.

Asides from influencing the micro-situational realities of students and instructors, the close ties between the religious and PSE systems during this period also influenced the way in which PSE organizations incorporated new components into their existing forms. From the outset, faculty in Ontario PSE, like their counterparts in other jurisdictions, became very preoccupied with the philosophical investigation of morality and what constituted 'good' or 'evil'. This, of course, was compatible with traditional methodological and analytical practises, consisting of "philosophical and spiritual speculation" (Axelrod, 1997, p. 94-95). Once institutionalized, though, and interest in morality rendered new components of the university subordinate to it. For example, as science and empiricism became increasingly popular within Ontario PSE, those investigating morality came to adopt such methodologies for their purposes, even though notable tensions existed between them. This meant that the scientific method was, for some time, employed by scholars to "verify an old truth – that of the Christian revelation – not to discover new ones" (McKillop, 1993, p. 113). As Egerton Ryerson remarked, "The God of grace is also the God of Nature; how delightful to trace his footsteps in the works and laws of the material universe, as well as in the pages of Revelation!" (McKillop, 1993, p. 105)[14].

[14] In the language of organizational theory, this essentially means that once institutionalized, the religious

This fragile compact between religion and science within the PSE system would, as we now know, eventually crumble. Yet, its discussion serves several purposes. First, it demonstrates how the early religious influence on the PSE system shaped its subsequent development. Secondly, it tells us that the secularization of the system which would occur in the later part of the 19th century (Jones, 2014) was less a result of an outright rejection of religion by academics, and rather, as a result of the tensions which emerged when trying to "incorporate science into a Christian framework" (Gidney, 2004, p. xvii). The tensions between science and religion within the university were further magnified by the publication and rapid diffusion of Charles Darwin's *The Origin of Species* in the second half of the 19th century. Scholars (Axelrod, 1997) suggest that the publication of this text instigated "fierce debate in academic circles in Canada as elsewhere because it tested the theological foundations" of Christianity (p. 93). As a professor from Queen's University noted by the end of the century, Darwin's ideas of evolution, "once considered a perilous heresy ... now rank among the world's most treasured conceptions" (Axelrod, 1997, p. 94). From this point on, religion did not so much disappear from the Ontario PSE system, but rather, slowly retreated. "Science came to constitute true knowledge", while religion and morality became increasingly marginalized within the curriculum (Gidney, 2004, p. xxi). This instigated a substantial shift in the normative environment, with the organizational field becoming increasingly the domain of science[15].

Through this sequence of events we are able to witness how conflicting forces,

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nature of Ontario PSE system affected how new components became 'grafted' (Reich, 2000, p. 515; Beland, 2007) on to PSE organizations.

[15] See Schofer & Meyer (2005) for a discussion of this 'scientization' process at the global level.

radiating both from within (science) as well as outside (religion) of the PSE system, shaped the environment within the organizational field. This is a dynamic that is repeated throughout the history of the system. Of course, as times changed, the particular actors and forces which impinge on the system differed. Nonetheless, the development of Ontario PSE corresponds with what organizational theorists (Scott, 1981) have termed an 'open system', one that is not “sealed off” from its environment, and rather, “dependent on flows of personnel, resources, and information from the outside” for its ongoing development (p. 28). With such a framework in mind, it would be fair to characterize the Ontario PSE system during this period as being influenced, at varying levels, by three main forces: a receptive but proactive government, Christian denominations and a burgeoning scientific professorship.

The implications of this early setup for how stratification played out within the system, at both the individual and organizational level, are speculative but rather straight forward. The heavy influence of different denominations generated some slight differences between PSE organizations. Those espoused to more wealthy denominations likely received more financial support and were able to afford more lavish campuses (libraries, lecture halls, etc.) and respected scholars. As a result, they would have been able to inspire greater respectability in observers. Yet, several factors muted the development of significant differences between Ontario PSE organizations during this period. A proactive government, for the most part, ensured that the focus of the system remained on countering American influence. It restricted the development of a secular private system, thus limiting the pursuit of organizational prestige and intense inter-

organizational competition that was occurring south of the border. Given such characteristics, it makes sense that we never saw the emergence of a Harvard-like institutions in Canada.

## Nationalization, German Model, Business and Government (1890s-1930s)

The turn of the 20th century was as the starting point for multiple transformations in the basic structure of Ontario PSE. The first of these processes, nationalization, is one that like many other changes in Ontario PSE, such as secularization, began to gain momentum at the University of Toronto. Internal conflict at this institution provides a glimpse at the early stages of the nationalist movement within the system. Initial *discontent* with the lack of Canadians in the professorship is visible through the contents of a letter written by Professor William Dale, to the Minister of Education in 1890 (Wallace, 1984). Professor Dale noted that the he believed Canadian appointments at his institution had “been uniformly good”, while it was “doubtful if the same assertion can be made respecting the foreign appointments” (McKillop, 1993, p. 154). Professor Dale went on to question whether it had occurred to the Minister “that there must be something wrong when after a generation of foreign teachers it is said to be impossible to find Canadians to fill any chair in the University” (McKillop, 1993, p. 154). Subsequent s*uppression* of the nationalist movement is apparent through Dale's dismissal from the University of Toronto in 1895 after expressing such views in a public forum (Wallace, 1984). Eventual *success,* on the part of nationalists or 'nativists', as they were then called, is visible through the eventual appointment of Canadians to positions of authority across

the university's administration and professorship starting in the later stages of the 19th century (McKillop, 1993).

The nationalist movement within the University of Toronto served as a template for other universities within the system. Yet, this nationalist movement had a demographic effect beyond the intended replacement of foreign with Canadian professors (Pietsch, 2010; De Vecchi, 1985). Nationalization within Ontario PSE also had the effect of accelerating the replacement of what was a largely older, conservative generation of professors with a younger, relatively more progressive thinking group. This was a new generation of professors who would bring with them new ideas that would essentially revolutionize the structure of Ontario PSE (McKillop, 1993). Along with a commitment to nationalism, the new professorship brought with them an appreciation of the German university model, one that "favoured laboratory-based teaching and independent research over rote learning" (Weidenhammer & Gross, 2013, p. 5; Thelin, 2004). James Loudon, one of the foremost leaders of the nationalist movement, went as far as attributing Germany's recent military victories over France to the this cutting edge model (Weidenhammer & Gross, 2013, p. 5). Loudon noted that, "It is, in fact, to the intellectual pre-eminence of the Germans and their devotion to science that the recent extension of their boundaries and their political unification are largely due" (Ross, 1972, p. 362)[16].

This research intensive model which the younger professorship admired was one that, near the turn of the 20th century, began serving as a template for new universities

[16] This sequence of events shows 'normative isomorphism' (DiMaggio & Powell, 1983) 'popping its head up' again and influencing the development of Ontario HE. It is interesting to note, though, how its emergence only came out as a result of internal conflict within the organization.

across the United States, such as the prestigious Johns Hopkins University (Ross, 1972; Fallis, 2005). It was also one whose diffusion across the United States was observed with great anxiety by some Canadian university administrators as they witnessed it start to attract Canada's brightest minds and produce scientific innovations (Ross, 1972). Such anxiety eventually resulted in a fury of activity and discussion within Ontario PSE that would result in an attempt to move towards the German model by establishing a Ph.D. program in the University of Toronto (Ross, 1972). This, of course, was a dramatic development within a PSE system that up until then had consisted of colleges and universities which were basically "teaching centers" (De Vecchi, 1985, p. 97; Fallis, 2005). This sequence of events conforms perfectly with the definition of what DiMaggio & Powell (1983) term 'mimetic isomorphism', or, in other words, the tendency for organizations "to model themselves after similar organizations in their field that they perceive to be more legitimate or successful" (p. 152).

The acceptance of the German model across Ontario PSE, by altering the functions which organizations performed, changed the way the system came to interact with external actors. It radically changed the nature of the relationship between the university and industry, for example. Industry leaders progressively began to see that it was "possible to realize practical dividends by supporting activities that initially promise[d] nothing more than the satisfaction of curiosity" (Fleming, 1971, p. 334). This led them to play an greater role in the development of PSE policy[17]. The Canadian

[17] An additional part of the explanation for the greater involvement of industry in the development of the Ontario higher education system was the growth of the industrial sector. Axelrod (1982) notes that from "1881 to 1891, the number of industrial establishments in Toronto increased from 932 to 2401" (p. 8-9). Hence, at the turn of the 20th century, the industrial sector was the strongest it had ever been in the

Manufacturers Association (CMA), for example, began lobbying government in order to ensure that organizations within the system would cease to be simply cultural institutions, in the "older sense", and move towards reconfiguring themselves to "better aid the advancement of industrial research" (McKillop, 1993, p. 168). Such efforts targeted not only the type of research to be conducted within the university, but also, the transmission of such knowledge through new degree programs. During this period we witnessed the opening of a School of Mining and a Faculty of Engineering at Queen's University (Axelrod, 1982, p. 11) as well as the construction of a new building for the School of Practical Science at the University of Toronto (McKillop, 1993, p. 173).

Industrial leaders were not the only ones to recognize the potential of academic research during the early stages of the 20th century. When the First World War broke out in 1914, perhaps as an attempt to mimic the perceived relationship between German research and military prowess (Ross, 1972), the Canadian military quickly turned to the scientists within its universities, providing funding for any research that could enhance its capabilities (Axelrod & Reid, 1989). Hence, Queen's chemists W.L. Goodwin and W.O. Walker became involved in the development of a new design for flares to be used by the military (McKillop, 1993, p. 283). Similarly, University of Toronto scientists contributed to the creation of new high explosive shells, steel and magnesium, among a host of other materials and weapons used by the military (McKillop, 1993, p. 283). Contributions were not always in the form of destructive weapons or materials. For example, John G. Fitzgerald, an associate professor of hygiene at the University of Toronto, contributed to

jurisdiction.

the war effort by creating new vaccines and treatments for infectious deceases (Ferguson, 1960, p. 22). Similarly, McMaster chemist John Bishop Tingle trained multiple research scientists for the Imperial Munitions Board (McKillop, 1993, p. 283). This relationship established between the military, industry and Ontario PSE ushered a new era, one that would see universities become increasingly connected to their external environments.

This shift, like many other processes mentioned in this history of Ontario PSE, such as secularization or nationalization, was a gradual and uneven process. With respect to secularization, for example, decades often passed between organizational decisions to drop religious affiliations. Queen's University and the University of Western Ontario severed their denominational ties in 1912 and 1908 (Axelrod, 1982, p. 11). Meanwhile, Assumption University, now known as the University of Windsor, as well as the University of Ottawa, both waited until the 1960s to cut their religious ties. Waterloo Lutheran University, now known as Wilfrid Laurier University, also underwent a late transition, becoming secular in 1973. Such late transformations essentially capped a process which began during the mid-1800s.

The Ontario PSE, like other systems, was slow to respond to the changing demands placed upon it by external entities such as government, industry and the general populace. This slowness was the result of several factors. With respect to pressures to become more technical and research oriented, sources (Harris, 1971) note that in the 1920s, “professors were so overloaded with instructional tasks that they were unable to attend to their own research projects. They were underpaid and there were insufficient funds available for them to carry out research” (p. 318-319). This appears to be a

condition that characterized the system for some time[18]. As late as the 1960s, for example, we hear grumbles on the part of government about the speed at which Ontario PSE was adapting to its new environment. As a brief to the Prime Minister of the province states:

> As industry and governments look for more highly qualified staff and seek help in both basic and applied research, they are discovering that the universities can neither carry out such research nor produce graduates to meet their needs. The plain truth is that our universities are good undergraduate teaching institutions, but they are not equipped to be much more than that.... with some notable exceptions, scholarship is relatively neglected in Canada. In no Canadian university is research carried out – like teaching – as a part of the normal activity of the university community (Fleming, 1971, p. 339)

This was true despite efforts made by the Canadian government in 1916 to institutionalize research within the nation through the establishment of the National Research Council (NRC), the first national research funding body of its kind in Canada (Gingras, 1986, p. 183; Phillipson, 1991; Jones, 2014).

Whereas the research function, as well training of researchers, took some time for Ontario PSE organizations to master, the shift towards a more practical curriculum occurred at a more accelerated pace. This is described within the literature as occurring for a number of different reasons. For starters, there was a radical transformation within the occupational structure in Ontario. By the early 1920s, "those employed in white-collar occupation linked to trade and finance, the traditional professions, and clerical, domestic and personal service were greater in number than those engaged in agriculture" (McKillop, 1993, p. 326). Hence, there was a very strong market demand for more practical training. Such a shift in the occupational structure occurred at the same time as a

[18] There are a number of reasons why organizations do not comply with demands placed upon them by external actors, asides from their functional inability to meet such demands. See Oliver (1992).

broader cultural shift, one which saw the "age of the self-taught, self-made entrepreneur and of the apprentice – icons of a less complex age", come to an end and give way to one in which "professors and public alike began to recognize that industrial society required specialized skills that could not easily be acquired below the level of the university" (McKillop, 1993, p. 326). This, of course, contrasted a previous era in North America where "a college degree was seldom if ever a prerequisite for the practise of any learned profession including law and medicine" (Thelin, 2004, p. 31). Combined, these developments in the occupational structure and the collective conscience led university administrations across the province, at times grudgingly, to establish new vocational programs in areas such as business and engineering during the interwar years[19].

## WWII, returning soldiers and expansion (1930s-1960s)

At the outbreak of World War II, the Canadian government once again turned to its universities for two reasons: "pro-war socialization" (Axelrod, 1982, p. 15) and scientific innovations. The university became a place where instructors "lectured their students on the justice of the paramount struggle in which the allies were engaged" (Axelrod, 1982, p. 16). As the president of the University of Toronto suggested, this was a period when "special efforts have been made to teach the fundamental issues at stake in the present struggle and to emphasize those spiritual values which make democracy possible and desirable, and make human life liveable" (Axelrod, 1982, p. 16). Hence, the universities were employed by the government in order to "stimulate in the minds of all Canadians a

[19] Collins (1979), along with other credentialists, would completely disagree with this largely functionalist narrative. Nonetheless, as stated previously, the goal of this chapter is not to revise the history of Ontario PSE along more radical lines, but rather, to provide a brief synopsis of existing work.

greater appreciation for democracy as a way of life to the end that they may better understand the present struggle and thereby make the maximum contribution to the war effort of the nation" (Axelrod, 1983, p. 15).

Government also turned to the universities was because it realized, as Principal Wallace of Queen's University expressed, that "this was a war which may well be won or lost in the laboratories" (McKillop, 1993, p. 531), a place that became "the first line of defence" (Axelrod, 1982, p. 18). The government realized that this would be a war in which the side "possessing the newest and best devices would have a very great advantage in this kind of technical warfare" (McKillop, 1993, p. 522). Hence, it enlisted physicists to conduct research on "radio techniques, electronics, chemical warfare, submarine detection, radioactive isotopes, the analysis of heavy water and nuclear fission, and synthetic rubber" (McKillop, 1993, p. 531)[20]. It also enlisted leading social scientists to fill leadership positions in organizations such as the Wartime Information Bureau, Wartime Prices and Trade Board and the federal Department of Finance (McKillop, 1993, p. 529). As a *Globe and Mail* article noted, "No more is the university a haven of peace and leisurely study… Rather, it is a place of bustling activity, of wartime problems" (McKillop, 1993, p. 529)[21].

The Canadian government was not only interested in acquiring the help of leading

[20] Other inventions which came out of wartime university research were "new processes for producing metallic magnesium; improvements in pressure suits and other advances in aviation medicine; degaussing ad other defences against a variety of destructive mines; the invention of temporary refrigeration for carrying foodstuffs to Britain; and much defensive work on war gases and on ballistics" (Axelrod, 1982, p. 18)

[21] Karabel (2005) notes similar trends within the United States extending well after the end of WWII. He suggests that, in the American context, "leading universities were eagerly embracing the new opportunities provided by federal grants and the growth of 'big science' in the years after World War II" (Karabel, 2005, p. 322).

faculty from Ontario universities. Realizing that “technical men were needed for all the fighting forces as well as for the war industry plants that were springing up” (McKillop, 1993, p. 522), it also turned to universities to fill its lower ranks with educated technicians. To accomplish this, the Canadian government attempted to accelerate the curricular shift away from the liberal arts to the sciences by enacting legislation that “set aside $300,000 for the purposes of attracting high school students into engineering and science” (Axelrod, 1982, p. 17), as well as excluding students in sought after disciplines from enlistment prior to graduation (McKillop, 1993, p. 529). The government also exerted influence to have universities tailor programs to meet the needs of the war effort (McKillop, 1993, p. 529). This occurred in several ways. For starters, entrance requirements were reformulated so that the “Defence Training Course, taught in all high schools, could be substituted for other less 'practical' credits upon the student's application to university” (Axelrod, 1982, p. 17). It also lobbied for the restructuring of PSE program curricula. So, for example, the “whole physics program at the University of Toronto in the summer of 1941 was geared to radio training for Royal Canadian Air Force personnel” (McKillop, 1993, p. 531). In taking these steps, government provided additional stimuli for the development of a more practical curriculum. Here, the government can be seen as continuing to play a strong role in dictating expansion and organizational identities, and likely restricting the amount of differentiation that would otherwise emerge through a more market driven system.

The closing of WWII triggered changes within Ontario PSE that mirrored those occurring at an international level (Schofer & Meyer, 2005; Monahan, 2004, p. 5).

University enrolments, numbering at 38,000 in the 1944-45 school year, swelled to over 80,000 by 1947-1948 (McKillop, 1993, p. 547; Axelrod, 1982, p. 19; also see Harris, 1971, p. 456-457 for different estimates). This influx of returning soldiers into the PSE system was anticipated by government officials and university administrators. The former agreed to provide universities with increased funding, to the tune of $150, for every veteran that enrolled in their institution (Harris, 1971, p. 458). This resulted in the development of many temporary measures by university administrators who were unwilling to commit to building new permanent facilities that would go underutilized once the influx of veterans had been digested by the system[22]. Thus, at Queen's University, attics where utilized as lecture rooms; at the University of Toronto, an old munitions plant in Ajax was transformed into a laboratory; and, at McMaster, multiple temporary buildings began to dot the campus (McKillop, 1993, p. 552).

An influx of veterans does not entirely account for expansion during this period. Jones (2014) notes that even when "excluding the veterans, university enrolment increased by almost 70% between 1941 and 1951" across Canada (p. 6). A broader cultural shift was occurring simultaneously with post-WWII expansion in Ontario PSE. The university was transformed within popular discourse from an institution meant to educate a "limited set of national elites required by closed national societies and occupational systems", and thus, a set number of "school teachers, doctors, lawyers (especially civil servants), and priests" (Schofer & Meyer, 2005, p. 902; see also Jones, 2014, p. 5), to one where every child would have "an opportunity to be educated to the

[22] Jones (2014) suggests that this influx of veterans consisted of approximately 20,000 in the 1945-46 academic year and 35,000 by 1946-47.

full extent of their mental capacity, no matter where they live or what the financial circumstances of their parents may be" (McKillop, 1993, p. 558; Monahan, 2004). This cultural shift is described by some as being facilitated by historical events, in particular, the stigmatization and decisive defeat of "closed" models of society during WWII by what were deemed "aggressively liberal, open, and individualist societies" (Schofer & Meyer, 2005, p. 902). Societies, like the United States and Britain, would go on to play a prominent role in the reconstruction of the international system that promoted new norms regulating who was to be perceived as suitable for PSE during the post-WWII era (Schofer & Meyer, 2005). This new "college for all" ethos (Rosenbaum, 2001) which emerged during this period across the globe led to a tripling of enrolment figures within Canadian universities by the early1960s (Monahan, 2004, p. 14; Harris, 1971, p. 468).

## Differentiation, Cold War, De-Canadianization (1960-1970)

Asides from growth within the university sector, the post-WWII era also witnessed the emergence of new organizational types across the Ontario PSE system, and thus, sector based differentiation. Some (Fleming, 1971) suggest that at this historical juncture it became "clear that the province could bankrupt itself in a vain attempt to provide the most expensive of post-secondary facilities", the university, "to all comers, regardless of evidence of ability to benefit from them" (p. 492)[23]. Hence, in an effort to accommodate the increased demand for PSE within the jurisdiction, at a lower cost, smaller technical institutes were established which would train students for roles in

[23] This sentiment has periodically resurfaced ever since. Most recently, there have been calls to establish a series of specialized teaching universities in order to reduce the costs of training the majority of local students at more expensive research universities (Clark, Van Loon, Trick, 2011).

specific sectors of the economy[24]. The late 1940s thus saw the establishment of the Provincial Institute of Mining, Provincial Institute of Textiles, Lakehead Technical Institute and the Ryerson Institute of Technology (Fleming, 1971). The 1950s witnessed the subsequent emergence of similar organizational types such as the Eastern Ontario Institute of Technology, the Western Ontario Institute of Technology and the Northern Ontario Institute of Technology (Fleming, 1971, p. 449). The existence of these new organizational types would be short-lived. By 1963, they only enrolled about 4,000 students (Skolnik, 2010, p. 4). By 1965, this figure had shrunk to approximately 2,536 students (Fleming, 1971, p. 452).

The expedient demise of these novel organizational forms is not very surprising when one considers the way in which they were incorporated into the PSE system. These organizations were, from the very outset, allocated into the 'ghetto' of the PSE system: technical/vocational training. As Wolf (2002) has noted, this type of education, although often making sense from the standpoint of policy makers, is perceived by most people to be a fine option, but only for *other people's children*. The type of training which they offer, leading mainly to lower status occupations, was counter to the 'culture of aspiration' that had grabbed hold of the middle class by the 1950s (Labaree, 1997, p. 201). This was particularly so within the context of Ontario given that these institutions lacked the 'transfer' function (Clark, 1960; Brint & Karabel, 1991; Jones, 2014) which made their American community college counterparts so popular. As Clark (1983) notes, “when

[24] Fisher et al (2006) note that the federal government played a significant role in the establishment of these institutes, channelling over a billion dollars into them. They note that the federal government, through their involvement, attempted to provide “training for workers to meet technological and industrial changes” (Fisher et al, 2006, p. 19)

sectors designed for technical training and teacher training do not have the potential for transferring their students into the university sector, status rankings become more clear cut and severe" (p. 64). These institutes were very much perceived as 'last resorts' or 'dead ends' by students and their parents. They were not able to provide the illusion that they could serve as pathways to high status positions and the "good life" that a university education provided (Labaree, 1997, p. 201; Clark, 1960), and thus, generated very little demand from the populace.

Given such dynamics, discussions about the need for a "broader alternative to universities" were quick to emerge during the latter half of the 1960s (Skolnik, 2010, p. 4)[25]. They led to the expression of a sentiment that strongly contradicted the mission of narrow technical institutes, which was to provide training in a limited "range of occupations and industries" (Skolnik, 2010, p. 4). Guided by such new currents, existing technical institutes served as the foundation for the development of a new sector in 1966, that of CAATs, short form for Colleges for Applied Arts and Technology (Fleming, 1971, p. 521-522). The Provincial Institute of Mining and the Northern Ontario Institute of Technology were absorbed by St. Clair College (Fleming, 1971, p. 522). Similarly, George Brown College inherited existing organizations within its vicinity such as the Provincial Institute of Trades and the Provincial Institute of Trades and Occupations (Fleming, 1971, p. 522). Other College of Applied Arts and Technology similarly took over technical institutes that inhabited their geographical areas.

[25] It is interesting to note that within the case of the U.K., where there was a strong push for the emergence of vocational training (National Vocational Qualifications) in the last decades of the 20th century, there was also the eventual emergence of more 'General' NVQs as a result of the failure of the traditional, more specialized NVQs (Wolf, 2003, p. 90). This dynamic being triggered, of course, by a lack of interest on the part of student and parents in vocationally specific training.

The establishment of the public college sector during the 1960s within Ontario was believed by policy makers to not only serve increasing demand within the populace for more PSE (Stanyon, 2003), but also, the changing demands of the economy. A study on "skilled manpower" carried out by a consortium of federal departments revealed a host of figures that supported the establishment of broader public colleges (Fleming, 1971, p. 520). This included, among other things, the belief that economy was in need of "69,225 skilled employees – 33,746 of them immediately" spanning almost every occupational category and geographical region (Fleming, 1971, p. 520). Such survey even indicated that employers were, at the time, hesitant to expand their operations due to the "uncertainty of obtaining trained workers" (Fleming, 1971, p. 520).

This was an era in which a modern preoccupation with human capital and the knowledge economy blossomed in Ontario. Sources (Skolnik, 2010) note that during this period policy makers realized that those who "did not acquire the knowledge and skills required by new technology faced the prospect" of becoming essentially obsolete (p. 3). The acquisition of skills at the individual level became linked to the economic potential of the nation. Such logic necessarily drove policy makers to believe that the mismatch between the curriculum of PSE organizations, at the meso-level, and the needs of the economy as a whole, was not only an unfortunate feature of the system, but one that "threatened to retard the economic development of the whole province" (Skolnik, 2010, p. 3). The emergence of the public college sector is thus described within historical accounts as a response to the need to provide a broad, cost-effective alternative to the

university model which would produce skilled workers for the knowledge economy[26].

It is important to note that, although there was the realization during the mid-20th century that the "province could bankrupt itself" (Fleming, 1971, p. 492) by trying to provide universal access to university level education, this did not stop the government from making an increasing financial commitment to the sector. By the mid-1960s, the province had managed to exponentially increase the size of its once small public university sector. A younger generation of public universities, including Carleton University (1956), Lakehead University (1959), the University of Waterloo (1959), York University (1959), Laurentian University (1960), Trent University (1963), Brock University (1964) and the University of Guelph (1964) were ushered into the system during with an abundance of financial support[27]. Monahan (2004) notes that by the beginning of the 1970s, these universities were receiving approximately 70% of their revenues from government sources (p. 5). This degree of financial support for existing PSE organizations is made all the more impressive given that the provincial government was being spread progressively thin through the establishment of an entire cohort of

[26] Not all observers subscribe to this particular narrative of the emergence of the college sector, though. Clark (1960), among several others (Brint & Karabel, 1989; Bowles & Gintis, 1978), describes the junior college sector within the American HE system as the solution to what he terms a "disjuncture" between ambition and opportunity within American society. These individuals note that modern democracies generate far more ambition than their structures can satisfy (Brint & Karabel, 1989, Clark, 1960). This, as expected, generates much "individual resistance and recalcitrance" (Clark, 1960, p. 569). In order to mitigate such negative emotions, low status HE organizations are depicted as performing a sort of "cooling-out function" (Clark, 1960, p. 574). These organizations are described as giving the illusion that they can serve as pathways to 4-year HE organizations, and the high status occupations which their programs are linked to, while at the same time, 'softly' legitimating the inevitable failure of the majority of their students to accomplish such a task (Brint & Karabel, 1989). A logical extension of this reasoning is that the emergence of low status sectors, such as the Ontario public college sector during the 1960s, was motivated by the need to manage the ambition of individuals within the jurisdiction.

[27] It is important to note that some of this expansion consisted of creating universities anew, while in other cases it consisted of greatly expanding, secularizing existing specialized colleges (e.g. Guelph), making them into government funded, generalist universities

public colleges.

This expansion occurred within the tense context of the Cold War. Polls from the era demonstrate that beyond a redefinition of cultural norms (Schofer & Meyer, 2005), or the emergence of ideas surrounding human capital, fear also played a role in the expansion of PSE. A poll conducted in 1961 showed that only 42% of Canadians "felt that the free world could live peacefully with the Russians", with a similar proportion believing that a "new world war" was imminent (Axelrod, 1982, p. 24). Efforts to improve PSE in Ontario during this period, especially within 'STEM' fields, occurred as the Soviet Union ascended to super-power status. The Soviet Union, in a manner similar to Germany during earlier years, served as a 'scary enemy' that drove government to implement changes within Ontario PSE (Axelrod, 1982, p. 25). This anxiety is easily perceivable through statements made by individuals such as James Duncan, chairman of Ontario Hydro and member of the Industrial Foundation on Education, who suggested that:

> "…we are in danger of losing the cold war unless we do something very drastic about it and education is very close to the core of our problem. Science and engineering have made such remarkable progress in recent decades that the nation which holds the lead in these fields hold the initiative in world affairs…" (Axelrod, 1982, p. 24)[28].

Although the Soviet Union collapsed, and the Cold War has since ended, a different type

[28] Fear of the Soviets was by no means an Ontarian or Canadian problem. Karabel (2005) notes that "since Sputnik, a sense of national crisis had been growing about the capacity of the American education system to keep up with the Soviet Union in producing scientists and engineers" (Karabel, 2005, p. 265). Leaders within the American context made similar appeals to the public about the importance of education, suggesting that the rule was "absolute, the race which does not value trained intelligence is doomed" (Karabel, 2005, p. 265). Hence, within the American context, there was a similar "pressure to do something to counteract Soviet advances in education and science", pressure which led Congress to pass several acts which would channel "substantial resources to the nation's research universities" (p. 265).

of anxiety has since taken its place. In place of the Soviet threat, Western policymakers continue to worry about being overtaken by 'rising' economies[29]. In the U.S., in particular, there is always the looming threat of being overtaken by China. India and Brazil have also emerged as additional threats.

This expansion of Ontario PSE allowed it to better handle demands placed on it by industry, government and the populace, but it also had some unintended consequences. One notable effect was the reintroduction of large numbers of foreign academics, mainly Americans, into Ontario PSE. These were individuals who were characterized by critics as understanding little and caring less about "Canadian affairs and culture" (Monahan, 2004, p. 34; also see Cormier, 2005). Across disciplines, the percentage of Canadian-born professors ranged from 47% to 81% during the 1969-1970 academic year, triggering massive debates over the need for more Canadian academics which resembled those which occurred in the late 19th century (Monahan, 2004, p. 35). The lack of knowledge possessed by foreign academics "about Canadian culture and their insensitivity to it were said to reduce the quality of education being provided in the University" (Monahan, 2004, p. 34). Moreover, it was suggested that "since large sums of public money were going to universities, the universities should be giving preference to Canadian academics... and should ensure that the curricula took Canadian culture and values adequately into account" (Monahan, 2004, p. 34).

An additional side effect of expansion was increasing stratification at the organizational level. The new organizations that were added to the system did not enter it

[29] See the "A Nation At-Risk Report" released by the U.S. Department of Education in 1983 for a prime example of how competitive fears drive educational reform.

as equals. Technical institutes and public colleges were at a significant disadvantage relative to their older counterparts. By the time they entered the system, older PSE organizations had been able to develop a "loyal constituency, an established reputation, stable sources of public and private funding (including a solid endowment), credentials with a proven exchange value, a set of alumni occupying powerful positions, and a strong association with the social elite" (Labaree, 1997, p. 209). Thus, new organizations were generally disadvantaged in any competition with their older counterparts for resources or students. They were locked into performing largely subordinate functions which ensured that they remained, with few exceptions, within the lowest tiers of the PSE system (Brint & Karabel, 1991; Labaree, 1997).

## End of growth, decreasing importance (1970s-1980s)

Monahan (2004) notes, that heading into the 1970s, "universities were not as strong or as popular as their leaders thought. The ground was beginning to shift under them. The period of rapid enrolment growth, which some still thought would continue intermittently for a protracted period, was coming to an end" (p. 58). Changing economic conditions during the 1970s made the period a particularly turbulent one for organizations within the system. During such a period, what has been described as a widespread "faith of Canadians in the economic value of higher education" (Axelrod, 1982, p. 34) quickly transformed into serious scepticism towards the traditional ideas of human capital (Schultz, 1961; Spence, 1962; Mincer, 1958) which had been used to justify PSE

expansion[30]. Such sentiment eventually led the Minister of University Affairs to state: "we have reached the end of the line; that we cannot afford to increase by any significant degree the amounts of funding being directed to universities in future years" (Axelrod, 1982, p. 142). Gallup polls from as early as 1971 indicate that a large portion of Canadians (49%) believed that "the costs of education were simply too high", many of those sampled identifying factors like "buildings, equipment, too many frills and too much waste and inefficiency as the major components of such expense" (Axelrod, 1982, p. 146). This was, of course, a radical break with earlier trends of support from both the public and government for PSE.

While Ontario PSE managed "avoid both massive lay-offs of full-time faculty and the closure of uneconomical institutions" (Axelrod, 1982, p. 179), it was unable to successfully lobby its way back to the top of the government's priority list. This meant that PSE funding did not grow at the rate of its neighbouring systems, such as health care or even K-12 education. As a point of reference, while PSE funding remained stagnant during the 1970s, funding per student at the K-12 level increased by 33.2% (Axelrod, 1982, p. 180). Government started pushing public PSE institutions to become more entrepreneurial and responsible for generating their own income. This triggered a series of cost-cutting measures (e.g. sessional instructors, large classes) and the development of new revenue sources (e.g. private fundraising, corporate sponsorship) within the system.

Even in the face of such changing economic conditions, perhaps as a result of its

[30] It is interesting to note that some of the most radical attacks on human capital theorizing within the university also evolved during this period. Work done from a diverse number of theoretical and political standpoints, including Bowles & Gintis (1978), Collins (1979), Illich (1971) and Berg (1970), all emerged during this time period in order to challenge the human capital orthodoxy.

highly institutionalized character, the structure of the Ontario PSE system managed to emerge from the 1970s relatively unscathed. Commentators note that the "basic structures and relationships" which had been established by government at an earlier point were subjected to only minor "modifications" as a result of the turbulent 1970s (Jones, 1991; Jones, 2004). Adjustments to changing demands on the system took place mainly within organizations, and "while individual institutions have often changed internal policies and priorities to address these demands, such actions have had little impact on the basic structure and operation of the system" (Jones, 1991, p. 9).

## 'Common Sense' Revolution and Differentiation (1990s-Present)

The relative stability that characterized the structure of the Ontario PSE system for decades would disappear in the mid-1990s. Leaders of the newly-elected conservative government made it clear in 1995 that "Universities, like other educational institutions and the government itself, will have to restructure and rationalize to come to grips with the reality that there is less tax money available, and there will continue to be less tax money available for the foreseeable future" (Monahan, 2004, p. 178). As they explained to leaders of the PSE system, this would mean, among other things, "setting priorities... living within your means... downsizing, rationalizing, even eliminating some areas" (Monahan, 2004, p. 178). These statements foreshadowed the enactment of policies of fiscal constraint and privatization within the PSE system during the 1990s (Jones, 2004). The conservative government first budget included decreases in "operating grants to Ontario's universities and colleges by over 15% ($280 million) in 1996-1997" (Jones,

2004, p. 44)[31]. This shrinking government support led organizations within the PSE system towards what Slaughter & Leslie (1997) have termed "academic capitalism". Such a term describes the process by which PSE organizations, when faced with decreasing government support, are forced to adopt "competitive, entrepreneurial behaviour, virtually unseen in previous decades" in order to cover basic operating costs (Davies & Quirke, 2002, p. 87; Metcalfe, 2010). This shift meant that many traditions (e.g. tenure, liberal education) within the system would be exposed to re-examination and scrutiny.

One of the main ways in which the policy community responded to calls for greater efficiency was through the discussion of system-wide differentiation[32]. During this period, a committee was established to provide advice on "institutional specialization and differentiation; program rationalization with potential for cost-savings" and a host of other strategies (Monahan, 2004, p. 167). This interest in the topic of differentiation, as a mechanism to increase efficiency, is one that would spill over into the new millennium. Increasingly sophisticated plans for a differentiated system would emerge in the 2000s, not just from government, but also, from other influential actors within the PSE policy world, such as Ian Clarke and Harvey Weingarten. At the time of writing, these actors appear to have convinced the Ministry of Training, Colleges and Universities (MTCU) of the need for more differentiation. Recent policy documents released by the Ministry state that it:

…has opted for differentiation as a primary policy driver for the system. Our

[31] Another part of the context: as PSE expansion increased, the dependency ratio also increased because of the aging of the populace. Health care costs greatly rose. Hence, more fuel for the norm that universities ought to fund themselves more and more, which also legitimated rising tuition.

[32] Policy discussions of the topic of differentiation are traced by Skolnik (2013) back to the late 1970s. See this source for a brief history of policy talk about differentiation within the province of Ontario.

> overriding goal is to build on and help focus the well-established strengths of institutions, enable them to operate together as complementary parts of a whole, and give students affordable access to the full continuum of vocational and academic educational opportunities that are required to prosper in our contemporary world (MTCU, 2013, p. 3)[33].

It is interesting to note that, even as the system moves towards greater differentiation, it is differentiation of a distinct type. The system moves towards a form of differentiation that is promoted and strongly guided by the provincial government. This, of course, stands in contrast to the more market driven differentiation that exists in neighbouring systems such as those in New York and Michigan.

Recent discussion of differentiation have been paralleled by two distinct changes in the regulatory structure of Ontario PSE, neither of which has dramatically altered the system. The first pertains to the erosion of the functional distinction that traditionally existed between universities and colleges. For many years, universities in Ontario had a near monopoly over degree-granting within the jurisdiction (Walker, 2001). Starting in 2000, the MTCU announced that public colleges would be "permitted to offer applied degrees on a pilot basis" (Walker, 2001, p. 21). The most recent data published by the Post-Secondary Education Quality Assurance Board (PEQAB) shows considerable college involvement in degree granting, with numerous institutions offering applied degrees[34]. This erosion of boundaries has facilitated isomorphism proclivities within Ontario PSE. As Scott (2010) notes, when given freedom, "smaller and less well-endowed schools doggedly… follow the direction set by the more prestigious colleges"

[33] In practise, this has meant the government has accepted what Hazelkorn (2013) calls the neo-liberal model. The implementation of this model basically entails the concentration of "resources in a small number of elite or world class universities" (Hazelkorn, 2013, p. 14).
[34] See http://www.peqab.ca/CurrentConsent.html

(p. 12). This pattern is now clearly visible within Ontario, not only do we have public colleges mimicking universities by granting degrees, but we have larger public colleges, such as Sheridan College, attempting to acquire full university status. This, of course, is a path that was paved by the likes of OCAD University (previously Ontario College of Art & Design) and Ryerson University (previously Ryerson Polytechnic University).

A second change relates to increased government openness to private PSE. This has occurred in several ways. First, there has been greater acceptance and promotion of private career colleges. This sector has existed for over a century, but generally out of sight. It provides many of the same vocational programs as public colleges, but has generally been left out of government planning within PSE (Sweet, 1993)[35]. In recent years, the PCC sector has been the "only part of the Ontario system that experienced significant expansion" (Fisher et al, 2009, p. 7)[36]. The number of such organizations in Ontario alone has gone from 200 in 1990 to over 400 by 2013 (Pizarro Milian & Hicks, 2014). The sector has been championed by the Conservative Party for its ability to offer "what the traditional college and universities systems cannot" (Hudak & Leone, 2013, p. 23), including the rapid delivery of high-demand skills to students at no cost to the province. This sector has been brought under the supervision of the MTCU by the Private Career Colleges Act of 2005 and has consistently been the object of policy discussions (Pizarro Milian & Hicks, 2014; Marin, 2009). It comes closest to achieving a market

[35] The PCC sector has not only been left out of government plans, it has also been outside of the sights of academic researchers. At the time of writing, no research is available on its historical development within Ontario. This is likely due to the fact that most organizations of this type have a relative short time-span, with few if any managing to stay in operation for more than a decade (Pizarro Milian & Hicks, 2014). The transient nature of this organizational population makes it difficult to develop any long term understanding of it aside from a discussion of the policy frameworks that have regulated them.

[36] This, of course, refers to expansion by creating new organizations.

driven type of differentiation.

The greater acceptance of private PSE organizations within the Ontario system is also visible through the establishment of the *Post-Secondary Education Choice and Excellence Act*. This piece of legislation opens the door to private degree-granting entities, including foreign ones, wishing to operate in Ontario (Jones, 2004). To date, this modification to the regulatory structure has not generated much change in the direction of either greater or lesser differentiation. Beyond the public university sector, degree-granting within Ontario remains dominated by public colleges and a small number of religious organizations with "statutory authority to grant degrees in restricted areas, mostly in religious education" (CICIC, 2013). Nonetheless, it provides the foundation upon which increased privatization of the system could occur in the future.

## Conclusion

Several trends have become apparent through this brief organizational history of the Ontario PSE system. Most notably, we see that government, at both the provincial and federal levels, has played a prominent role in the system's development. Industry has also played a role in shaping the system at key historical junctures. The same can be said of broader cultural trends, such as secularization and the emergence of science. There are fluctuations in the influence of each of these actors, as would be expected, across both time and space. Most obviously, it could be argued that during the system's early development, religious organizations played just as strong of a role as government in shaping the system. Similarly, although at the time of writing the provincial government plays a role in the supervision of PCCs, it would be fair to suggest that market forces

nonetheless play a dominant role in dictating organizational behaviour in that sector. Nevertheless, it is impossible to underestimate the role that government has and continues to play in shaping Ontario PSE as a whole. This heavy dose of government intervention has meant that Ontario PSE is not as differentiated, and hence, as stratified as its more market-driven counterparts, such as the American PSE system. This is a fact that has been repeatedly stated within the comparative literature on this topic (Davies & Hammack, 2005; Davies & Zarifa, 2010).

Beyond highlighting the heavy influence of government, this organizational history has also shed light on the basic hierarchical structure of the system. The system is home to a group of relatively old and well-funded public universities, which have traditionally been the preferred choice of students (Davies, Maldonado & Zarifa, 2014). There is some variation among these organizations, along several important dimensions, such as size and age (Weingarten et al., 2013). Beyond this sector, the rest of the system tends to be relatively low-status. It is composed of newer and vocationally-oriented schools. These are two organizational characteristics which students have traditionally shown an aversion to (Brint & Karabel, 1991; Clark, 1960). In addition, it can be said that the system as a whole is demarcated by strong sector boundaries, there is little confusion about 'who is what' across the system. With the exception of the PCC sector, it is also accurate to say that the system tends to not be market-driven. These are important and distinct system characteristics that should be kept in mind moving forward.

# Chapter 3

## Theory

Boudon's (1974) conception of educational differentiation was very expansive. It encompassed any sort of 'branching point' within the system that would prompt an educational decision on the part of students or parents. Examples include choosing to enrol in a Catholic, public or private high school; deciding between academic or applied streams, or selecting to enroll in university, college or an apprenticeship. All of these constituted important 'decision points' in the education system. Like Boudon (1974), I am interested in exploring *consequential* forms of differentiation: those that channel individuals by their socio-economic origins, and/or lead to different socio-economic strata. In this dissertation, I use organizational theorizing to hone in on often-ignored dimensions along which PSE institutions differ, including 1) the kinds of relationships they share with their surrounding environments, 2) the network structures in which they are embedded and the 3) symbols that they employ to communicate legitimacy or quality. Using an assortment of data sources, I demonstrate how these forms of differentiation similarly stratify individuals in a way akin to the factors identified by the MMI and EMI traditions.

Before discussing these three forms of differentiation, I provide a synopsis of existing attempts to theorize and measure differentiation within PSE. This is a topic has become increasingly popular in recent years across sociology (Brint et al, 2006; Davies & Zarifa, 2012; Hermanowicz, 2005; Scott, 2010) and popular media. I begin by describing some university ranking schemes in Canadian PSE, including those produced by

*Maclean's Magazine* and the *Globe and Mail*, as well as foreign publications like the *U.S. News.* I then discuss more complex classification schemes developed within the academic community. Lastly, I provide an overview of organizational perspectives that will serve as the foundation for understanding differentiation with respects to stratified connections, network structures and symbols.

## Media Rankings

Publications such as *Maclean's* and the *Globe and Mail* have developed simple classification schemes for the Canadian university system that dominate local discourse. *Maclean's* categorizes universities according to their functional specialization, using categories (1) medical-doctoral, (2) comprehensive and (3) primarily undergraduate. Using this breakdown. The *Globe and Mail* uses a contrasting scheme based on organizational size to sort institutions into 1) large, 2) medium, 3) small and 4) very small. Despite adopting contrasting methodologies, both schemes provide similar images of the sector's hierarchical structure – grouping many of the same institutions together. Most 'large' organizations in the *Globe and Mail* scheme, such as Toronto, McMaster and Western, are grouped together as 'medical-doctoral' by *Maclean's*. Similarly, 'small' institutions in the *Globe and Mail*, like Lakehead, Laurentian and Nipissing, are also grouped together as 'primarily undergraduate' by *Maclean's*.

**Table 1. Canadian University Rankings**

| ***Maclean's*** | ***Globe and Mail*** |
|---|---|
| Medical-Doctoral: Ottawa, Toronto, Queen's, McMaster and Western | Large: McMaster, Western, Carleton, Ottawa, Ryerson, Toronto-St. George, |

| | | | |
|---|---|---|---|
| **Function / Focus** | | Waterloo and York | **Size** |
| | Comprehensive: Waterloo, Guelph, Carleton, Windsor, Wilfrid Laurier, York, Ryerson and Brock | Medium: Guelph, Queen's, Toronto – Mississauga, Wilfrid Laurier, Brock and Windsor | |
| | Primarily Undergraduate: Trent, Lakehead, Laurentian, UOIT and Nipissing | Small: Trent, OUIT, Lakehead, Laurentian, Nipissing, Toronto – Scarborough | |
| | N/A | Very Small: OCAD, Western – Kings/Brescia/Huron, Redeemer | |

American rankings adopt more sophisticated schemes. For example, the *U.S News* ranking distinguishes between two main organizational types: colleges and universities. The former is defined as teaching-oriented, while the latter is said to perform both research and teaching functions. The *U.S News* also makes further distinctions within each of these two categories, drawing attention to both (1) national and (2) regional institutions[37]. Among universities, the former is said to have greater involvement in doctoral-level training. Among colleges, national institutions are distinguished by their greater degree of specialization in the liberal arts. Geographical distinctions are also made within the regional categories, with organizations being grouped into the North, South, West and Midwest regions[38].

[37] For more information on this particular publication visit http://colleges.usnews.rankingsandreviews.com

[38] The placement of this distinction within the regional categories is potentially telling of the type of markets within which these organizations exist. American students are known to travel across state lines to attend for PSE, something relatively unheard of in Canada. Davies and Hammack (2005) cite data showing

| **Table 2. U.S. News Ranking** | | |
|---|---|---|
| | **High Specialization[39]** | **Low Specialization** |
| **Graduate** | National University | Regional University<br>- North, South, Midwest, West |
| **Undergraduate** | National College | Regional College<br>- North, South, Midwest, West |

Media rankings are regularly criticized for their instability. Institutional orderings change sporadically from one year to the next, and institutions are brought into new categories, without what appear to be radical transformations in their internal structures. For example, in 2011, Brock, Wilfrid Laurier and Ryerson were transferred from the 'primarily undergraduate' to 'comprehensive' category in the *Maclean's* rankings. The publication indicated that this change was motivated by "growth in their populations and increased graduate school offerings" (Maclean's, 2011a). Despite this justification, such movements among categories give the impression that the rankings lack validity. The same criticism applies seemingly arbitrary shifts up and down the ranking ladder[40].

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that about double the proportion of US undergraduate crossed state lines than did Canadian undergraduate cross provincial lines. The former are likely relatively elite students who can afford out of state tuition. Within the regional categories, populated by less prestigious schools, this border hopping is likely less frequent.

[39] In the case of universities, high specialization in graduate training, exemplified by greater involvement in doctoral education. In the case of colleges, greater specialization in the liberal arts.

[40] Some international rankings are less subject to these criticisms given that they do not explicitly categorize institutions. Yet, by focusing on a sub-set of "leading" PSE organizations, and excluding others, international rankings can be said to implicitly embrace a classification scheme based on prestige or status. The *Times Higher Education Rankings*, for example, claim to provide "the definitive list of the top 100 most *powerful* global university brands". The publication does so by measuring the reputation of such universities as perceived by a group of "senior, published academics – the people best placed to know the most about excellence in our universities" (Times Higher Education, 2013). Other international rankings take a more familiar form. For example, the *QS World University Rankings* produces a *Forbes*-like "Top 50" list of schools established within the last 50 years. This list is composed of a relatively unknown group of universities, ranging from the Hong Kong University of Science and Technology to the Universität Bremen.

## Academic Classification Schemes

Many academics note that the ordinal measures used by media rankings can obscure clusters of like institutions and junctures where large differences exist between proximate institutions, and are unable to "summarize the shape and range of whole systems" (Davies & Zarifa, 2012, p. 147)[41]. In order to avoid the pitfalls of popular rankings, scholars like Davies & Zarifa (2012) focus instead on resource differentials across PSE, noting that they are strongly correlated with status/prestige, as well as a number of other important organizational traits (research intensity, selectivity etc.). This decision is supported by mainstream sociological theorizing. Vaughn (1982), for example, argues that "though organizations have many goals, economic success is imperative for organizational survival. In fact, organizations must seek profits regardless of variability in the values of a particular culture" (p. 1379). Moreover, like Davies & Zarifa (2012), she notes that "not only is economic success critical to survival", but organizational wealth itself is also a strong "indicator of prestige" (p. 1379)[42].

Research by Brint et al (2006) draws on organizational theory in order to produce one of the most holistic understandings of institutional stratification in American PSE.

[41] There are exceptions to this. The QS World University rankings for example, utilize ordinal rankings, yet they also provide scores for each organizations (see http://www.topuniversities.com/university-rankings ). Hence, although in 2013 MIT, Harvard and Cambridge are ranked 1-3, they are also provided independent scores 100.0, 99.2, 99.0. Hence, one is able to see the distance between these organizations.

[42] The relationship between financial resources and status/prestige described by Vaughan (1982) exists within the field of PSE due to logic that is qualitatively different from that in other organizational fields. Within the field of PSE, wealthy organizations can "use their resources to attract higher-ranked students through scholarships, financial aid, teaching quality, and general reputation" (Davies & Zarifa, 2012, p. 147). In other words, they can use resources to acquire characteristics which make them more desirable to students, and thus, to become increasingly selective. Not surprisingly, this selectivity is one of the key factors which publications take into account when developing university rankings (Hazelkorn, 2008; 2008a; Espeland & Sauder, 2007; Sauder & Lancaster, 2006). As such, financial resources play a central role in a HE organization's ability to play the ranking games, and thus also in the broader the stratification of the organizational field.

Rather than imposing "an a priori scheme on the field", as media rankings tend to do, Brint et al. (2006) conducted interviews to allow "key informants to represent the field as they experience it" (p. 230). Their research tells us that three main factors distinguish organizations, according to American university presidents. The first is status, or prestige, a factor that tends to be strongly correlated with selectivity and financial resources (Brint et al, 2006, p. 235)[43]. The second is "institutionalized role within the academic hierarchy", which essentially reflects the highest credential granted by an organization, as well as its research intensiveness (Brint et al, 2006, p. 235). The last is resource dependence (Pfeffer & Salancik, 1978), or in other words, the source from which an organization acquires the majority of its funding, such as government, religious organizations or simply tuition ('the market'). Using such measures, Brint et al (2006) organized the sector into seven groups, starting with what were considered the most 'elite' entities:

1) Elite Private Organizations (Ivies, Little Ivies)
2) Large Research Organizations (e.g. State Flagship Universities)
3) Other Doctoral-granting Organizations (typically smaller)
4) Public Master's-granting Organizations
5) Private Master's-granting Organizations (often religious/non-profit)
6) Selective Baccalaureate-granting organizations (mainly religious)
7) Non-selective, Religiously-affiliated baccalaureate-granting organizations

Such an elaborate classification of organizational types reflects not only Brint et al.'s (2006) sophisticated methodology, but in addition, the differentiated and densely populated American 4-year university sector.

[43] As we proceed with a discussion of classification schemes developed by academic researchers, it will become apparent that although more sophisticated, they tend to incorporate many elements such as prestige or institutionalized role which

Though useful for thinking about the hierarchical structure of the American 4-year university sector, Brint et al.'s (2006) scheme is difficult to apply to a system like Ontario. It was designed specifically for degree-granting organizations, and thus, is unable to account for organizations that focus exclusively on granting non-degree credentials[44]. It also contains categories that are not meaningful within Canadian PSE. North of the border, there are no truly 'elite' private or religiously affiliated PSE organizations with comparable selectivity to American counterparts such as Notre Dame, Emory or Boston College.

Scott (2010) discusses a condensed version of the Carnegie Foundation scheme that more adequately reflects the landscape of Ontario PSE[45]:

1) Associate Degree granting (public or non-profit)
2) Associate Degree granting (for-profit)
3) Researcher Universities (including doctoral-granting institutions)
4) Comprehensive Colleges (Master's Colleges and Universities)
5) Baccalaureate Colleges (liberal-arts colleges)
6) Special Focus Institutions (e.g., theological, medical, business, engineering, etc.)

This condensed Carnegie scheme makes distinctions across a number of important dimensions. Like Brint et al (2006), it takes into account 'institutionalized roles', and thus, organizations providing training at different credential levels. Yet, it does so at a system rather than sector level, capturing differentiation at the sub-degree level (e.g. associate degree granting). Scott (2010) is also similar to Brint et al (2006) in that his

[44] As Brint (2013) has recently noted, the absence of two-year community colleges is a "distinct limitation" of his classification scheme (p. 103), which was never meant to encompass all PSE organizations.
[45] There are numerous other sub-categories for each of these. See the Carnegie foundation website for a breakdown of each (http://classifications.carnegiefoundation.org/summary/basic.php). An adoption of all of these sub-categories would undoubtedly constitute 'over-kill' for the purposes of analyzing the Ontario PSE system. Nonetheless, a discussion of the condensed form presented in Scott (2010) is useful.

conceptualization of differentiation within PSE is informed by 'ecological' perspective (Hannan & Freeman, 1977; Hannan & Freeman, 1984) within organization studies. He points out, for example, that organizations belonging to some categories (public associate degree-granting/research universities/etc.) are *generalists*, pursuing a "variety of goals or missions and offer a diversity of programs" (Scott, 2010, p. 8). Others (for-profit associate programs/liberal arts colleges/special focus institutions) are *specialist*, pursuing a limited set of missions and providing training in specific areas (Scott, 2010, p. 8). Scott (2010) notes that these organizations can be understood to operate within distinct organizational environments, with the latter occupying small market niches and the former covering a broader market area.

This *a priori* organizationally-informed understanding of differentiation advanced by Scott (2010) approximates the approach I will employ to understand the hierarchical structure of Ontario PSE. The main advantage of my approach is that I draw upon unique blends of organizational theorizing, as opposed to a single perspective. The ecological perspective used by Scott (2010), though useful for understanding market processes within mainly technical environments, is not ideal for understanding meaningful cultural processes that typically occur within institutionalized environments (Meyer & Rowan, 1977; Meyer & Scott, 1983; DiMaggio & Powell, 1983).

Hermanowicz's (2005) work highlights the importance of cultural facets of differentiation within PSE. Dissatisfied with existing classification schemes, Hermanowicz (2005) examined cultural distinctions between what are normally deemed as similar PSE organizations. He noted that, for example:

> Harvard and Howard Universities fall into the same Carnegie category as research I schools. Yet their institutional cultures might suggest significant distinctions in how each school is organized and how each represents itself in the universe of colleges and universities. People on the inside of these schools may account for life within them in systematically distinct ways. Yet the substance of similarity and difference, beneath that of sheer degrees granted, remains unknown. Problematic contrasts of this sort can be made among numerous schools, from Georgia to Georgetown (both research I institutions), in each of the sectors comprising the Carnegie classification." (pg. 27)

Like Brint et al (2006), Hermanowicz (2005) sought the input of individuals within the field to gather a sense of how it was organized, conducting interviews with physicists across American doctoral-granting universities. He found the presence of distinct cultural standards across the sector. At elite PSE organizations, there was overwhelming consensus over what constituted success. As one respondent put it:

> You have to publish papers on something in the mainstream journals. And it's absolutely clear what they are. If you show me somebody's publication list for the past five years, just by looking at the journals, I can tell you whether they are active or not… *Physical Review, Physical Review Letters, Journal de Physique, Journal of Physics*, and many more. There are learned peer-reviewed journals, and then there are the rest. And if you are not publishing at least three papers a year . . . in those sorts of journals, then you have ground to a halt. (Hermanowicz, 2005, p. 36-37).

By contrast, in lower-tiered organizations, there was less consensus over what physicists believed constituted success. At times, there was an outright rejection of the 'publish or perish' mentality that exists across academia. As one respondent put it:

> A lot of people would differ with me on this, but to some people, including some of those in this department, a successful person is one who is aggressive and goes out and gets grants and establishes big groups, writes lots of papers, and is involved in all kinds of activities. That's a successful person… I wouldn't go quite as far as that, because a lot of stuff is just aggrandizement: big grants, makes a big show, looks good, looks impressive and a lot of things running around, a lot of students running around, but I would not necessarily say that was a

> successful program, unless the work was of some significance. (Hermanowicz, 2005, p. 40).

Positioned between these two extremes was a middle ground where Hermanowicz (2005) found a mixture of cultural elements from both elite and non-elite schools. Hermanowicz (2005) used these findings to theorize that the American doctoral-granting university sector was made up of overlapping institutional environments, with an increasing dissent as one reached lower ranked organizations.

Hermanowicz's (2005) approach, though insightful, has drawbacks. For starters, it generated a very rudimentary of image of organizational stratification, illustrated by his use of a diagram consisting of three hierarchically overlapping circles (representing elite, middle, low-tiered social worlds). Hence, it could speak to broad differences between Harvard and Howard, organizations at opposite ends of a large category, yet it was unable to make fine distinctions between similar organizations (e.g. Harvard vs. Yale). It is thus questionable whether within a smaller PSE system, like Ontario, Hermanowicz's (2005) approach could make fine distinctions between like institutions.

## A Tailored Approach to Differentiation in Ontario PSE

In this section I develop an organizationally-informed lens through which to examine differentiation within Ontario PSE. To do so, I draw inspiration from the new institutionalist (Meyer & Rowan, 1977; DiMaggio & Powell, 1983), population ecology (Hannan & Freeman, 1977), old institutionalist (Clark, 1971) and network (Granovetter, 1985; Uzzi, 1996) perspectives. This exercise is not meant to identify every possible form of consequential differentiation within the system, but rather, to address a novel and

powerful forms of differentiation that actively stratify the system's population. A direct product of this exercise will be an enhanced framework through which to understand individual-level social stratification, *ala* the EMI and MMI traditions.

I begin with a discussion of the new institutionalist and population ecology perspectives with which an understanding of stratified connections will be developed. Subsequently, I discuss how network theory and old institutionalism can be used to understand additional organizational mechanisms that reinforce the hierarchical structure of Ontario PSE.

## New Institutionalism, Population Ecology and Stratified Connections

### *A Brief Look at New Institutionalism*

New institutionalism (Meyer & Rowan, 1977) emerged during the 1970s within the sociology of organizations as an attack on the centrality of efficiency within traditional theorizing (Taylor, 1914; Williamson, 1974). The orthodox view posited that forms and practises were the most efficient options adopted by institutional leaders through calculative decision-making. New institutionalists aimed to disprove this rational view of organizational behaviour, arguing that the selection of forms was the result of passive acceptance and a thirst for legitimacy. To accomplish this, new institutionalists drew on a budding literature on 'bounded rationality' (e.g. March & Simon, 1958) to debunk the myth of organizations as computer-like, calculative actors. In place of such image, they highlighted alternative mechanisms through which organizational change occurred at the field level, including coercive, mimetic and normative avenues through which forms spread across fields (DiMaggio & Powell, 1983).

Early new institutionalists (Meyer & Rowan, 1977; 1978) carved a space for legitimacy at a time when the literature was dominated by discussions of efficiency. Their championing of legitimacy, though, led to the construction of a mirror image, one that replaced efficiency with legitimacy without really addressing the variable strength of said forces across fields. A literature (Oliver, 1991; 1992) later emerged to correct such flaw within new institutionalism, one that was heavily influenced by the business management branch (i.e. Pfeffer & Salancik, 1978) of organizational studies. It has attempted to mend not only the marginalization of efficiency and technical environments within new institutionalism, but also to do away with passive accounts of organizational behaviour.

Oliver's (1991) revision of new institutionalism posits that "organizations do not invariably conform to the rules, myths, or expectations of their institutional environment", as suggested by early theorists (Meyer & Rowan, 1977; DiMaggio & Powell, 1983). But rather, that organizations also respond to external pressures through compromise, resistance and defiance. Oliver (1991) further outlined the conditions associated with such non-acquiescent responses, including:

1. **Multiplicity**: the degree of multiple, conflicting, constituent expectations exerted on the focal organization[46].
2. **Dependence**: the degree to which the focal organization relies on other organizations for resources.
3. **Control type**: the nature (coercion, incentives) of the mechanism used by entities within the environment (regulators, competitor, etc.) to attempt to control the focal organization's behaviour.
4. **Uncertainty**: the reliability with which future states of the field can be predicted by the focal organization.

[46] Berk & Galvin (2009) suggest that high multiplicity is, in fact, a common condition of most fields. They suggest that over time, "layers of conflicting rules and norms" are added to organizational fields, leading to creation of a more 'messy' organizational field than new institutionalists tend to acknowledge.

She theorized that, at one extreme, actors operating under conditions of low multiplicity, high dependence, coercive control structures and low uncertainty, were likely to comply with external pressures. In the opposite scenario (high multiplicity, low-dependence, incentive structures and high uncertainty), there was a greater likelihood of non-compliance.

Modern institutionalists have mended the flaws highlighted by Oliver (1991; 1992) and others. Quirke (2013), for example, conceptualizes organizational fields as housing "competing philosophies which vie for dominance" (p. 4). She notes that organizations can "simultaneously face multiple cultural logics, as they face different segments of pluralistic environments" which, in turn, provide them with several paths towards legitimacy (p. 4). Quirke (2013) concludes that within such messy fields, organizations can be legitimated by "multiple mythologies" (p. 21). This, of course, is a more nuanced depiction of organizational behaviour than those advanced by the founders of new institutionalism.

In the most recent application of this reasoning within PSE, Scott Davies and I (in press) modify new institutionalist insights to understand connections between PSE organizations and their surrounding environment. We suggest that universities, particularly older and high-status ones, operate by a logic of 'core isomorphism' / 'peripheral risk-taking', strategically responding to lucrative opportunities while sheltering their core components (traditional programs, tenure, etc.) from technical pressures[47]. Such sheltering of core components allows them to continue to be distinct from more applied

[47] The idea is that governments and students both pressure universities to perform their degree granting function at a lower cost.

and vocational PSE organizations, and thus, appear legitimate to important constituents (e.g. alumni, donors). At the same time, universities leverage their legitimacy to exploit lucrative opportunities, such as providing executive training (MBAs, professional certifications, etc.) or establishing industry partnerships (research centres, etc.). This logic supports the general assumption that, within Ontario PSE:

> **H1:** Public universities will respond strategically to their environments, protecting their core, while at the same time, exploiting lucrative opportunities.

This hypothesis requires that one be able to empirically map two phenomena: first, an *institutionalized core*, such as a set of programs (e.g. sociology, math) that are offered across most universities. These are programs with relatively little correspondence with technical environments (i.e. labour market demand, etc.), but instead constitute legitimate components of the ideal-typical university. Second, one should be able to identify distinct adaptations (*peripheral risk-taking*) to lucrative opportunities within local environments, including not only high-status degree programs that meet labour-market demands[48], but also, research chairs and centres funded by local industry.

## *Population Ecology*

Like new institutionalism, population ecology emerged during the 1970s with a certain disregard for orthodox views. They questioned the idea that popular organizational forms were the result of rational decision-making (Hannan & Freeman, 1977, p. 930)[49].

[48] Typical examples of this would be manufacturing engineering in Detroit, finance in London or New York, software engineering in Palo Alto.

[49] It is important to remember that, at this point in time, such logic was the dogma across diverse settings ranging from sociology departments to business schools. Within sociology, traditional Marxism (Braverman, 1976) viewed organizational forms as the results of capitalist ploys to more effectively exploit workers. Within business schools, a successful company was seen as the brainchild of an innovative visionary (Steve Jobs, Bill Gates, etc.) ahead of his/her time, a trend which continues to this day.

Hannan & Freeman (1977), the founders of population ecology, argued that there are a "number of obvious limitations on the ability of organizations to adapt", rendering inertia the modal organizational response to external pressures (p. 930). Sunk costs in, for example, "plants, equipment, and specialized personnel", made it difficult for organizations to switch main functions or markets (Hannan & Freeman, 1977, p. 931). Stubborn normative standards, as well as a lack of clear information about alternative ways to organize, also limited adaptations to environmental change.

Although this idea of "inertia" may appear odd to business management scholars, it has acquired empirical support over the years. Within the sociology of education, work by Aurini & Quirke (2011) on for-profit educational institutions has found that the behaviour of decision-makers can hardly be explained with reference to "some mythical invisible hand or whip" (p. 190). Their interviewees agreed that perhaps they *should* keep track of competitors but, in practise, many of them were entirely oblivious to their practises. As one respondent suggested: "Oh no, I never care [about the competition]! I told you, I'm not a business woman. I just do whatever I think is right … I've heard from my students and parents that there are many schools around here.… But that's it. I never worry about the other businesses" (p. 186). This lack of awareness about the practises of competitors flies in the face of traditional organizational theorizing both within and outside of sociology.

Within the population ecology tradition, changes in organizational forms are believed to occur mainly through selection processes. Environments determine what kinds of organizations exist within them by rewarding certain characteristics and penalizing others. Such differential returns help organizations whose forms best meet environmental

exigencies to thrive, and drive those who are a poor fit to fail or "exit". As with biological evolution, this selection process is continuous. Though variability exists in rates of change, most organizational environments tend to be dynamic, rendering the definition of "optimal fit" ever-changing.

Population ecologists (Cameron, 1984) note that environmental change can influence organizational populations in two main ways. The first is a quantitative change in the "carrying capacity" (Baum & Singh, 1994; Swaminathan, 1998) of a particular niche. This occurs when, for example, there is a drop in consumer demand for a product that a company makes. Or, for example, when government funding for a particular type of social service (e.g. hospitals, schools, homeless shelters) dries up. The second type of consequential environmental change is qualitative, entailing a reconfiguring of the types of activities supported within a niche (Cameron, 1984). This can be said to occur when, for example, new regulatory standards are set to govern how business is conducted within a particular market, driving out those competitors that cannot meet the new standards. A prime example of this type of change occurs when minimum wage or child labour regulations are established in the third world, or when stricter emission standards are instituted within the developed world. Such changes modify organizations within such markets, weeding out shoemakers, for instance, whose business model cannot survive without unethical employment practises, or automobile manufacturers who produce cars with poor emissions.

With such Darwinian-like logic in mind, population ecologists quickly turned their attention towards unearthing traits that are generally rewarded across organizational

environments. Their research has discovered two main characteristics, size and age, that generally expose organizations to higher mortality rates. With respects to size, research (Baum & Oliver, 1991; Baum & Mezias, 1992; Delacroix & Swaminathan, 1991; Ranger-Moore, Banaszak-Holl & Hannan, 1991) consistently finds that smaller organizations are more prone to fail. Large organizations outlast their counterparts because they are able to exert a great degree of "control over their institutional environment" (Ranger-Moore, 1997, p. 905). By virtue of being perceived as "main players", they are able to start trends by simply adopting a practise. Regulators and competitors often perceive their actions as "best practises" within a field. In addition, population ecologists suggest that large organizations possess resources to weather fluctuations in their environments, such as economic downturns (Ranger, 1997, p. 904; Bruderl & Schussler, 1990)[50]. These are fluctuations that would otherwise select out smaller counterparts. Population ecology research (Hannan & Freeman, 1989; Olzak & West 1991) also posits that older organizations will out-compete younger counterparts. They propose that young organizations needed to develop internal structures that often require expensive learning and experimentation. This challenge is magnified when structures or routines have to be developed from scratch, with no pre-existing template to mimic or emulate (Ranger-Moore, 1997). Population ecologists (Baum & Oliver, 1991) have also argued that younger organizations, lacking a track record to attest to their quality, also struggle to appear legitimate and develop ties with other actors. This

[50] Large corporations regularly go against pressures in their technical environment. Nike, for example, is known to have paid $5,000 fines to the NBA for every single game that Michael Jordan played in the NBA with their signature Air Jordan shoes. Over an entire season, this accumulated to over $400,000, about two-thirds of Jordan's salary in the mid-1980s. Such consistent defiance of the NBA's policies by Nike eventually led to a discontinuation of such bans on colourful shoes. Currently, NBA players can be found wearing all sorts of ridiculous looking shoes.

hinders their ability to acquire valuable financial resources and information[51].

The overarching image that emerges from population ecology is one of a segmented competitive field. At the one end, larger and older organizations occupy a very stable market position, sheltered from short-term fluctuations in their environment and able to exert some influence over it. Such capabilities mean that, as a group, larger and older organizations experience minimal turnover. This image corresponds almost perfectly with new institutionalist descriptions (Davies & Pizarro, forthcoming) of highly institutionalized fields, such as the elite PSE sector (Oxford, Cambridge, Harvard, etc.), which are populated by seemingly immortal organizations. Given that their institutional environments bend to their will, and that they can ride out fluctuations in their technical environments, such organizations have been left unscathed by multiple economic depressions, world wars and routine changes in political administrations. At the other end, population ecologists describe the presence of a highly volatile environment, inhabited by smaller and younger organizations. This second population lacks the financial resources to weather fluctuations in their technical environment as well as the status to bend their institutional environment. As a result, it is exposed to constant turnover. One of the most regularly cited examples of

[51] These two main findings, with respects to liabilities of age and size, clash with popular views about organizations within and outside of academia. With respects to age, new organizations, such as Silicon Valley start-ups, are often lauded for being revolutionary, cutting age and innovative. Such images of younger organizations tends to be juxta-positioned with that of older organizations, depicted as inertial and prone, like biological organisms, to obsolescence and senescence. Along the size continuum, small organizations also tend to be viewed favourably as being highly adaptive. Within the Ontario PSE system itself, private career colleges, the smallest organizational type in the field, have been described as being “perfectly positioned” to help Ontario adjust to changing labour market demands given that they are “nimble small businesses” capable of responding quickly to changes in their surrounding environment (Hudak & Leone, 2013, p. 23). Large counterparts, on the other hand, are perceived as old 'dinosaurs', filled with bureaucratic red tape, incapable to capitalizing on short-term opportunities. In both of these cases, population ecology research tends to find little support for such alternative views of the benefits of small size and younger age.

such environments is that of the restaurant industry, where approximately 60% of all restaurants have been found to fail within the first three years of operation (Parsa et al., 2005). Within this environment, only the fittest – those whose structures most closely meet the exigencies of their particular niche – are capable of surviving.

The image that emerges from the population ecology perspective serves two purposes. First, it supports aspects of the initial hypotheses I derived from new institutionalist theorizing, adding credence to the idea that larger and older universities can be selective in responding to surrounding pressures. Not only are they able to exert influence over their institutional environment[52], they can also temporarily ignore stimuli from their technical environment. This allows them to protect their institutionalized core, even when facing strong pressures to change it. This is exactly why universities do not immediately shift from providing instruction in the humanities to the trades during economic recessions. They are able to ride out hard times[53]. Population ecology also provides us with further insight into what we should expect from smaller and younger and organizations. They should be mirror images of their surrounding technical environments, providing training only in areas supported by the local labour market. Lacking the resources to ride out short-term fluctuations, younger and smaller organizations who are out of step with their technical environments will quickly perish. When we analyze labour markets and PCC structures within specific geographical regions, we should thus be able to observe a

[52] Within the Ontario PSE system, this could be said to occur through the main voluntary associations within each sector. The Council of Ontario Universities (COU), Colleges Ontario (CO) and Career Colleges Ontario (CCO) all actively lobby government for their member organizations. In doing so, they inevitably influence the legislative framework, and broader institutional environment within which they operate.
[53] In the most extreme cases, hard times do not even influence smaller PSE organizations. Harvard continues to receive a high number of applications, irrespective of economic conditions.

high degree of correspondence between the two.

> **H2:** The characteristics (area of program specialization) of private career colleges will be tightly coupled with their surrounding technical environments.

### *A Theoretical Note on the Origins of External Pressures*

A brief note on the nature of technical and institutional pressures is warranted before proceeding further. These arguments assume that institutional environments operate on a 'macro' or 'global' scale. For example, across the English speaking world, similar normative standards dictate what a university should look like and how it should operate (Clark, 1983; Frank & Meyer, 2007; Pizarro Milian, Davies & Zarifa, in press;), leading to similar disciplines, administrative offices (graduate studies, etc.), conventions such as tenure, as well as a number of other traditional practises. This isomorphism occurs even though Canadian universities operate within unique provincial markets and regulatory frameworks. A similar dynamic occurs across American states. The point is that institutional pressures that drive universities to adopt certain practises rarely originate from local actors, although they can be reinforced by them[54]. By contrast, the origins of technical forces are mostly local. For example, in their study of tutoring franchises, Davies & Aurini (2004) found that market demand for tutoring was "very local in nature", with parents usually walking or driving children relatively short distances to attend tutoring sessions (p. 429), and competition was often conceptualized at the local level, with franchises carefully partitioning geographical areas so to avoid direct competition with each other.

Thus, the notion of institutional pressures refers to normative standards that operate

[54] For instance, Ontario's MTCU can legislate that tenure be adopted, or students can demand research intensive universities, but both characteristics are supported by the institutional environment.

with general uniformity across social space. Administrators at traditional universities, whether in Thunder Bay, Auckland or San Diego, share a similar image of the 'ideal' university when making decisions. Meanwhile, the notion of technical forces refers to pressures that originate from local sources. PCCs that are clustered in geographical regions will feel demand only for programming that reflects local labour market needs[55].

## Additional Mechanisms Reproducing Hierarchical Structures in PSE

### *A Brief Review of Network Theory*

By 'network theory' I refer to a distinct branch that evolved within the confines of economic sociology (Swedberg, 1991; 1997). This line of research was popularized during the mid-1980s by Mark Granovetter's (1985) influential piece on embeddedness (Swedberg, 1991)[56]. In that piece, Granovetter (1985) dismantled new institutional economics, and more specifically, the work of Oliver Williamson (1975; 1979; 1981) on transaction costs. Williamson assumed that organizational forms constituted the most effective ways to handle transactions. Simply put, those that entailed a high degree of

[55] For a discussion of this type of force, see Kraatz & Zajac' (1996) in their study of liberal arts colleges in the United States. They found that changing consumer preferences at the local level were strongly correlated with 'illegitimate' organizational change (i.e. a shift towards more vocational training).

[56] Although the new economic sociology is often traced back to the 1985 article, the foundations for this type of network theorizing was present earlier in Granovetter's work. In fact, his more popular study of job acquisition had many insights into the idea that network ties influence economic behaviour. In this seminal study, Granovetter (1973) argued that individuals who were only tenuously connected, what we would commonly refer to as 'acquaintances', tended to be the most useful sources of knowledge with respects to potential employment opportunities. He suggested that this was the case given that individuals who are loosely connected tend to be situated within networks which are composed of distinct, minimally-overlapping populations. Given this characteristic, their networks tended to possess knowledge about different employment opportunities. Meanwhile, individuals who are strongly connected, such as close friends, co-workers and family, tend to be situated within overlapping networks. These are networks which are composed of many of the same people and, as a result, tend to possess redundant knowledge about employment opportunities.

complexity and occurred frequently would be absorbed by organizations to mitigate financial costs[57]. Meanwhile, those which were simple, occurred infrequently and required little transaction-specific investments, would be executed across markets[58].

Granovetter's (1985) first critique addressed the idea that interactions between internal organizational sub-units were less prone to opportunism and malfeasance. He cited a passage from Dalton (1959) which documented the odd events that often take place during internal audits. Dalton (1959) found that they often provoked a "flurry among the executives to hide certain parts and equipment", relocating them to "little-known and inaccessible spots" such as "basements and pits that were dirty and therefore unlikely to be examined", "departments that had already been inspected and that could be approached circuitously while the counters were en route between official storage areas and... places where materials and supplies might be used as a camouflage for parts" (Granovetter, 1985, p. 499)[59]. In addition, Granovetter (1985) drew on research that showed that managers often "consider internal transactions to be more difficult than external ones" (p. 499). Such evidence discredited the idea that interactions within organizations were any less prone to opportunism and malfeasance than those which occurred across markets.

Granovetter's (1985) second attack on the transaction costs perspective revolved

[57] It appears that any form of vertical integration would support this logic. Thus, for example, any time a producer has a subsidiary which regularly provides it with parts or primary resources (steel, wood, etc.), transaction costs economics would claim support for its position.
[58] The most obvious support for this would be when, for example, businesses of any sort purchase undertake 'one-time' purchases or equipment, etc. Microsoft does not have its own internal furniture division, it buys such products from external sources.
[59] This less-than-merry state of affairs within organizations is well supported by other research, such as Jackall (1988) and Morrill (1995).

around the argument that markets are not fundamentally Hobbesian in their character. He suggested that there was "evidence all around us" which indicated that the relationships between economic actors were not exclusively economic, but also, fundamentally social (Granovetter, 1985, p. 495). To support such claim, Granovetter (1985) cited research which found that executives within the same industry tend to "sit together on government or trade committees... know each other socially and even belong to the same country club" (p. 496). These social bonds, Granovetter (1985) argued, provided the "lubricant" that allowed economic transactions to occur across markets in the absence of "friction", protecting actors from opportunism. This second part of Granovetter's (1985) attack on new institutional economics has been incredibly influential within the field of economic sociology[60].

Some years later, Coleman (1988) clarified how embeddedness can develop within markets. He noted that within regular markets:

> If A does something for B and trusts B to reciprocate in the future, this establishes an expectation in A and an obligation on the part of B. This obligation can be conceived as a credit slip held by A for performance by B. If A holds a large number of these credit slips, for a number of persons with whom A has relations, then the analogy to financial capital is direct. These credit slips constitute a large body of credit that A can call in if necessary - unless, of course, the placement of

[60] Subsequent research inspired by Granovetter (1985) has been highly supportive of his early theorizing. It has, for starters, explained in a more precise manner how or why embeddedness influences economic behaviour. Coleman (1988), during his discussion of the New York wholesale diamond industry, provides what is probably the clearest explanation of embeddedness. He notes how in this industry, "in the process of negotiating a sale, a merchant will hand over to another merchant a bag of stones for the latter to examine in private at his leisure, with no formal insurance that the latter will not substitute one or more inferior stones or a paste replica" (p. 98). Coleman (1988) explains that this behaviour is able to occur given that this industry is predominantly Jewish, with a substantial number of its members being connected through marriage, "living in the same community in Brooklyn, and going to the same synagogues" (p. 99). This embeddedness meant that if anyone cheated by "substituting other stones or through stealing stones in his temporary possession", he would not only lose economic, but also, "family, religious, and community ties" (p. 99).

trust has been unwise, and these are bad debts that will not be repaid. (pg. 102)

This rudimentary logic advanced by Coleman (1998) of 'slips' or reciprocity has been further refined in recent year by Brian Uzzi (1996; 1997; 1999). His study of apparel firms in New York found that embedded ties developed primarily through “third party referral networks and previous personal relations which (1) set expectations for trust between newly introduced actors and (2) equip the new economic exchange with resources from pre-existing embedded ties” (p. 679). Through these transferred expectations, Uzzi (1996) suggested that an arm's-length tie could be remodelled into an embedded tie after a successful “trial period of reciprocal exchange” (p. 679).

It is difficult to understand what Uzzi (1996) means, practically speaking, through the aforementioned premises. His basic logic is that actors can serve as a “go-between” (p. 679), using their mutual ties to two unconnected actors to trigger the development of embeddedness. In Coleman's (1998) terms: ‘A’ can use slips he holds from previous favours done for ‘B’ in order to influence ‘B’ to do a favour for ‘C’, to whom ‘B’ owes no favours. ‘B’, feeling indebted to ‘A’, will perform a favour for ‘C’. What this does is establish an initial degree of trust between previously disconnected actors, priming it for further embeddedness. Actor ‘C’, seeing the good faith shown by ‘B’, can react by performing favours for ‘B’ to reciprocate. This sequence of actions can lead to the development of an embedded relationship between ‘B’ and ‘C’ which mirrors that held by ‘A’ and ‘B’. Uzzi (1996) provides a concrete example of this dynamic from his field work, where one firm owner did a favour for a friend's wife:

> What was my relationship with Diana? Really nothing. I didn't know if she had 10 dollars or 10 million dollars. I only kind of knew of her husband and

> their company's problems. Now, I know that in this business a good customer will come back with big business, but they're just as likely to bounce around or ask, "Do me a favor at the last minute," or on each item want a new price - like manufacturers that are out to screw me. *So why did I help her out? Because Norman asked, "Help her out."* So when the account started, I gave it a hand. I cut the garment for 40 cents rather than what it was worth, 80 cents. . . and that's how I got started too. (p. 679, my emphasis)

## *The Many Benefits of Embeddedness*

Beyond providing simple price breaks, Uzzi (1996) found that embeddedness provided additional benefits, including: improved 1) trust between actors, 2) information sharing and 3) joint problem-solving. With respects to trust, Uzzi (1996) proposed that embeddedness reduced uncertainty about how actors would behave in response to errors made by their partners. As one of the firm owners in his study suggested:

> …with people you trust, you know that if they have a problem with a fabric they're just not going to say 'I won't pay' or 'Take it back.' If they did, then we would have to pay for the loss. This way maybe the manufacturer will say 'Hey, OK, so I'll make a dress out of it. Or I can cut it and make a short jacket instead of a long jacket (p. 678).

The presence of embeddedness in a relationship thus served as a type of 'insurance' against unforeseen costs that arise due to errors.

With respects to information sharing, Uzzi (1996) found that embeddedness facilitated the diffusion of knowledge among connected firms. As one of his participants suggested:

> If we have a factory that is used to making our stuff, they know how it's supposed to look. They know a particular style. It is not always easy to make a garment just from the pattern, especially if we rushed the pattern. But a factory that we have a relationship with will see the problem when the garment starts to go together. They will know how to work the fabric to make it look the way we intended. A factory that is new will just go ahead and make it. They won't know any better" (p. 678).

Thus, repeated interactions between firms, combined with a genuine concern for the success of embedded partners, ensured that valuable information about products was not only transferred from one firm to the other, but also, used in good faith to prevent errors. Embeddedness was also found by Uzzi (1996) to improve "joint problem-solving". While organizations sharing traditional economic relationships responded to failure on the part of the other by "exiting" the relationship, those engaged in embedded relationships provided valuable feedback which enabled poorly performing firms to ameliorate problems. As one respondent clearly stated:

> "When you deal with a guy you don't have a long relationship with, it can be a big problem. Things go wrong and there's no telling what will happen. With my guys [referring to embedded ties], if something goes wrong, I know we'll be able to work it out. I know his business and he knows mine" (Uzzi, 1996, p. 679).

More recent work by Uzzi and his colleagues has taken a more quantitative approach. For example, Uzzi & Lancaster (2004) found that when an embedded tie exists between a law firm and a client, the average fee charged for legal services is reduced. Another study by Uzzi (1999) also found that, within the banking industry, embedded ties increased a firm's access to capital and lowered their borrowing costs (p. 500). In both of these cases, the presence of embeddedness facilitated the acquisition of vital resources from an organization's network[61].

[61] The findings of embeddedness research are generally supported by other network research. An adjacent line of research, which has studied effects of network ties on organizational mortality (Baum, Calabrese, Silverman, 2000; Baum & Oliver, 1991; Singh et al., 1986) has found that the presence of ties, irrespective of their embeddedness, has beneficial effects. The premise behind this line of research is that when an organization develops "ties to well-established societal institutions, it signals its adherence to institutional prescriptions of appropriate conduct and obtains a variety of rewards that are predicted to contribute to its

Contemporary research also tells us that network structures, beyond providing the benefits discussed above, are also reflective of organizational status and prestige. Beyond serving as "pipelines" through which resources travel, ties across groups of organizations can also be thought of as "status clubs". Lifschitz, Sauder & Stevens (2013), for example, note that American PSE organizations select their peers strategically, developing ties with only those of comparable status and ignoring those beneath them. By constructing these closed network structures, PSE organizations are able to "ritually reciprocate each other's status positions" (Lifschitz, Sauder & Stevens, 2013, p. 3). Lifschitz, Sauder and Stevens (2013) argue that within the context of American PSE, football conferences, beyond ensuring a "degree of comparability in team size, quality, and preparation", also allow schools to "publicly entrench their identities as of a certain kind" (p. 16). This means that instead of playing geographically proximate peers, as public high schools tend to do, universities play in the same conferences as distant counterparts of similar status[62].

### *Organizational Networks as Stratifying Mechanisms*

Based on the above discussion, one would expect groups of PSE organizations with similar levels of status or prestige to be drawn to each other, and to also ignore those

likelihood of survival, including greater invulnerability to questioning, enhanced legitimacy and status, greater stability and predictability, and greater ease of access to resources" (Baum & Oliver, 1991, p. 189). Overall, such benefits are believed to lead organizations with established ties to experience lower mortality than their disconnected counterparts. This line of reasoning is supported by research within the sociology of education. In a manner similar to Baum & Oliver (1991), Aurini & Davies (2004) propose that, within the K-12 sector, established links to recognized entities, via the adoption of the franchise form, allow "franchise owners to obtain the advantage of selling an established and recognized product" (p. 422).

[62] Thus, for example, Harvard (enrolment of ~21,000) travels 310 miles to play football against the University of Pennsylvania (enrolment of ~24,000), rather than travelling 4 miles to play Boston College (14,000). Boston College will, on the other hand, travel 430 miles to play Penn State (98,000), who does not play closer Ivy League teams of more comparable size such as the University of Pennsylvania (24,000) or Columbia (29,000). These affiliation structures can be understood to reflect the status of institutions just as much as they do functional exigencies.

of lesser status, forming in the process what can be characterized as independent network clusters. Within the context of Ontario PSE, one should expect public universities, the oldest and most prestigious organizations, to constitute their own distinct cluster for technical[63], political[64] and social[65] reasons. The older age of this sector should also have granted organizations within it the opportunity to develop embedded ties. Moving from public universities, we should be able to observe other distinct clusters with degrees of embeddedness corresponding with the average status and age of organizations within them. The public college sector, given its relatively young age, should be home to less embedded network structures than those observed among public universities. Associations within this sector will be newer, the inter-organizational ties forged through them will be weaker. Overall, relative to the public university sector, network structures within the public college sector should be leaner, geared more towards achieving technical or political goals as opposed to more social ones.

Private religious universities and PCCs pose an interesting puzzle with respects to their potential network structures. While public universities and colleges are relatively homogenous populations[66], private universities and PCCs are not. Many PCCs, for example, provide specialized training in a specific program (hairstyling, etc.) area. Hence, although grouped together by the MTCU under the same category, empirically they are a

[63] Technical interaction could be seen, for example, in efforts to ensure credit transfers, as well as establishing a centralized application centre.
[64] Political interactions, as defined here, would include attempts to mobilize to change public policy.
[65] Social interactions would include sports competitions and other activities described by Lifschitz, Sauder & Stevens (2014) as serving status-reproducing functions.
[66] All public universities, for example, tend to provide undergraduate degrees in the same areas (sociology, psychology, economics, etc.), they tend to hire instructors with Ph.Ds and have shared governing structures. Most public colleges are also involved in the provision of training for professions in the trades (electrician, welder, etc.)

very diverse organizational population. The private religious university sector is in a similar position, although all schools within it provide 'religious' training, they do so in different religious traditions (Baptist, Presbyterian, etc.). Given this diversity, it makes little sense to expect embeddedness within these sectors at levels comparable to those existing in the public sector[67]. Any traces of embeddedness within should be limited to specific sub-groups of organizations providing similar kinds of training, those which identify each other as peers. Within the PCC sector, even within specific program areas, the degree of embeddedness will likely be low due to the constant turnover which characterizes this sector.

> **H3:** The Ontario PSE system should be composed of independent network clusters with levels of embeddedness corresponding with average organizational status and age.

The presence of these unique network structures across Ontario PSE should serve as a vehicle through which its hierarchical structures are actively reproduced. The benefits of embeddedness will not be accessible to all organizations across the system. Older ones, such as public universities, which already possess a competitive advantage of age, should have access to more mature network structures. There should also be within-sector variability in this regard. For example, within the PCC sector, those organizations which are linked into program specific associations (e.g. CCO, TTSAO) should accrue benefits not accessible to network isolates.

> **H4:** PSE organizations connected to developed network structures will have access to resources not available to network isolates.

[67] Why, for example, would a hair school and a welding school have an embedded tie?

### *Institutionalisms & Organizational Symbols*

When I refer to old institutionalism, I am referring to a cluster of papers written by Burton Clark (1971; 1972) which argued that experiencing conflict or adversity could be beneficial for organizations. It allowed them to develop "sagas" documenting historical exploits which elongated "emotional highs", allowing them to be felt in subsequent years by future members. Occurring in hand with the development of sagas was the emergence of powerful organizational symbols. These symbols could come in many forms, including both official (e.g. emblem, coat of arms) representations of the organization as well as objects implicitly associated with it (see Berg, 1986 for a discussion of symbolic resources). As Clark (1972) noted, once associated with an illustrious event in the organization's past, "even a patch of side-walk or a coffee room" could come to "evoke emotion among the believers" (Clark, 1972 p. 181).[68]

Through official university documents, we know that PSE administrators consciously seek to foster emotional bonding or "student pride" within their campuses (see University of Guelph, 2014; University of Calgary, 2013; University of Manitoba, 2014; University of Ottawa, 2014 for examples). One popular strategy that they employ to do so is altering the physical landscape of their institution, providing distinctive land

[68] In many respects, Clark's theorizing is very similar to that advanced by Randall Collins more recently in his book *Interaction Ritual Chains.* The terminology used by the two obviously differs, yet the underlying logic of their arguments is the same. Collins (2004) argues that successful rituals, including occasions of conflict, generate a "sort of electricity" that is stored in a battery-like fashion within individuals (p. 38). He notes that individuals come away from successful rituals with "a feeling of confidence, elation, strength, enthusiasm, and initiative in taking action" (p. 49). Associated with this emotional charging of the individual is the desire to treat symbols present during such rituals with the utmost respect, and to "defend them against the disrespect" of others (p. 49). This occurs given that individuals come to strongly identify with symbols which trigger memories of successful rituals. An attack on these symbols comes to represent hostility towards memories and experiences which the individual holds dear.

marks or symbols that students and wealthy alumni can become attached to. The University of Guelph provides a useful and recent example of this logic. As one source (Massecar, 2014) commented:

> "…one of the things missing from the University of Guelph's campus is a narrative, a picture, a story that students can identify with. Some of the other campuses in Ontario have developed this naturally. University of Toronto, Queen's and Western have all been around for quite a bit longer than Guelph and so they have had time to develop the kind of mythology that comes with age" (Massecar, 2014)

In order to ameliorate this perceived deficiency within its campus, the university went on to erect a gigantic $300,000 statue of its mascot (University of Guelph, 2014). As one administrator suggested, they already had "a beautiful campus that we are all very proud of, but the reality is that there was nothing identifying the University... We feel the signage and the Gryphon will change that…" (University of Guelph, 2014). Shortly after its placement on campus, observers (Massecar, 2014) noted that the internet was "teeming with images of all sorts of people mounting the Gryphon statue for a virtual ride through Facebook and Twitter". Students tugged on the statue's ears and engaged in other forms of playful behaviour, all while expressing positive emotions (smiles, laughter, etc.). In the process, they created fond memories that forever linked them with this symbol and, by extension, the university.

These actions on the part of Canadian PSE administrators mirror those of counterparts south of the border. As early as the 1920s, Thelin (2009) suggests that UCLA administrators were struggling with problems similar to those discussed above. They had noticed that "something crucial was missing" from the landscape of their new campus – the "acres of bean fields and vacant tracts did not evoke collegiate nostalgia" (Thelin,

2009, p. 8). In response to this deficiency in their physical environment, "resourceful trustees and donors had a good, prompt solution": they brought a large boulder on campus and "immediately anointed it as Founders' Rock" (p. 8). This boulder served as a symbol around which the institution's identity could start to coalesce, and to which students could become subsequently attached. Most recently, Montclair State University (New Jersey, USA) has adopted a similar strategy, deciding to "build a $210,000 statue of a red-tailed hawk, its mascot, as a way to raise school spirit on a predominantly commuter campus" (Thomason, 2015)[69].

Beyond engineering distinct physical environments, PSE organizations are the site of routine events (e.g. classes, lectures) that can also generate durable symbols and institutional myths. As Thelin (2009) notes, heroes can emerge even through mundane interactions. He uses the example of Edward Prichard, a freshman at Princeton during the 1920s. Prichard had a "habit of closing his eyes while listening" (Thelin, 2009, p. 10). As legend goes, a history professor once thought that Prichard was sleeping during his lecture and subsequently ordered him to pay attention. Prichard is said to have responded

[69] Although I restrict my discussion to PSE organizations, they are far from alone in their desire to engineer physical environments which facilitates customer attachment or bonding. Even car manufacturers have become acutely aware of the importance of producing the perfect sensory experience for customers. Rolls Royce became aware of the importance of this when it began to receive "complaints about their new models not quite living up to their illustrious predecessors" (Lindstrom, 2005, p. 86). Upon further investigation, they concluded that the singular difference between older and newer models, beyond obvious upgrades, was the distinct smell of earlier models. Earlier models smelt of the natural products out of which their interior was made, such as leather, wood and wool (Lindstrom, 2005). These were all replaced by foam, plastic and other materials in newer models, depriving the Rolls Royce of its distinct smell. The company responded by artificially mimicking the smell of its 1965 Silver Cloud (Lindstrom, 2005). A team of researchers formulated a "chemical blueprint", made up of 800 separate components, which replicated the earlier model's smell (Lindstrom, 2005, p. 86). These elements included expected odours such as leather and mahogany, but also, unexpected scents such as oil and petrol. This practise, known as 'sensory branding', is now widely adopted by other car manufacturers such as Ford and Cadillac, as well as other companies such as Crayone (Lindstrom, 2005).

by summarizing and highlighting errors in the lecture, all while maintaining his eyes closed (Thelin, 2009, p. 10). For that feat, Prichard became a cult hero of sorts to his colleagues, particularly because no one recalled ever seeing him study. In a sense, Prichard became a symbol, tying his colleagues to that moment, while at the same time, serving as a template to be emulated by future generations.

Returning to the administrative level, the preoccupation with developing and strategically employing organizational symbols extends far beyond the creation of physical structures and towards broader institutional marketing or branding practises. As a budding literature on marketing within PSE illustrates (see Hemsley-Brown & Oplatka, 2006 for an overview), PSE institutions develop promotional materials (e.g. brochures, commercials) by selectively drawing on symbols in their possession that paint the institution in a positive light. This includes showcasing not only idyllic physical structures (Tobolowsky & Lowery, 2006) and illustrious organizational histories (Layton, Cavanagh & Hettche, 2012), but also, a host of other factors ranging from research intensiveness (Harris, 2009) to graduate employment outcomes (Oplatka, 2002) and the provision of applied, industry-specific skills (Pizarro Milian & Quirke, forthcoming).

Symbols serve as an important resource for organizations. As Clark (1972) specifies, they can serve as a magnet, facilitating both the recruitment and retention of members. We also know from contemporary research that individuals who "establish a perception of oneness with or belonging to the university" (Edmonson, 2011, p. 20) come to "derive pleasure from discussing or reliving one's past" (Mael & Ashforth, 1992, p. 108-109). Even long after officially leaving it, they develop a preference for time spent

within it, holding on to memories and memorabilia in order to maintain a sense of affiliation (Mael & Ashforth, 1992, p. 109). This emotional bond has been found to increase the likelihood and generosity of donations made to universities (Edmonson, 2011; Weertz & Ronca, 2007; Mael & Ashforth, 1992).

I argue that sagas and symbols actively shape the manner in which organizations are able to signal their legitimacy (Meyer & Rowan, 1977; 1978) to external constituents. Given the uneven distribution of powerful symbols across Ontario PSE system, I suggest that this stratifies organizations within it. The public university sector, composed of the oldest organizations in the system, has had more of an opportunity to develop these symbols. As a result, older organizations within it are able to flash legitimacy in promotional materials by simply employing coats of arms adorned with mythical figures (e.g. gryphons, dragons) and Latin phrases. Meanwhile, other organizational types in the PSE system are relatively younger, and thus, have had less opportunity to develop powerful organizational symbols. They, in turn, must rely on more technical performance indicators, such as statistics and testimonials, affiliations to known actors and stylized, corporate-like, imagery to signal legitimacy to observers. Existing research supports this general logic. Davies & Quirke (2007) found that newer and less elite private K-12 schools "signal their quality by advertising performance indicators", a trend that goes against the logic of confidence which pervades across the broader field of education. This logic allows me to develop two basic hypotheses:

> **H5:** Older institutions will adopt branding strategies that utilize traditional symbols.
>
> **H6:** Newer institutions will utilize performance indicators, such as testimonials

and statistics, affiliations and stylized imagery to broadcast their quality.

## Conclusion

Together, these theories allow me to provide an understanding of how 1) stratified connections, 2) network structures and 3) organizational symbols cement, if not amplify, hierarchical structures in Ontario PSE. New institutionalism and population ecology allow us to understand the varied types of relationships which PSE organizations share with their surrounding environments. Larger and older universities can be understood as being able to resist local technical pressures, possessing the resources to withstand fluctuations. They also possess a degree of influence over regulators. Smaller and younger PSE organizations, such as PCCs, on the other hand, are generally at the mercy of their external environments. Those in existence tend to be mirror images of their immediate technical environments which they diligently serve.

Network research (e.g. Uzzi, 1996; 1997) tells us that older and prestigious public universities should be situated within highly embedded network clusters. By virtue of such location, they are afforded many benefits, such as facilitated access to information, resources and legitimacy. Younger organizations, on the other hand, tend to be located within more sparsely connected network areas, operating in relative isolation. As expected, such location serves as a hindrance for the development of these organizations.

Drawing from a mixture of old and new institutionalism, I also argue that PSE organizations are stratified by the degree to which to which they possess and are able to employ organizational symbols. Older public universities, given their age, have had more time to develop powerful organizational symbols which serve as a magnet, allowing them

retain and attract members. On the other hand, younger organizations, such as PCCs, lack these symbols and are forced to use more technical indicators to signal their quality to potential members. These include devices such as statistics and testimonials.

In the next chapter I discuss the variety of data collection techniques and mixed-methodological approach that I employ in order to examine these hypotheses. The diversity of concepts associated with the ideas explored through this dissertation, and their manifestation at multiple levels of analysis, requires that I employ an eclectic set of empirical sources and methodological techniques that require both detailed discussion and theoretical justification.

# Chapter 4

## Data & Methodology

This dissertation is characterized by a "methodological pluralism" (Davies, 2009; Payne, Williams & Chamberlain, 2004) motivated by three distinct factors: 1) the diverse theoretical perspectives that I draw on, 2) my chosen level of analysis, and 3) a broader "ethos of discovery". First, drawing on a variety of organizational theories has directed my attention to diverse types of social phenomena, ranging from organizational environments to social embeddedness and organizational symbols. These phenomena manifest themselves at varied levels of analysis (micro, meso, macro levels). As such, as a whole they can be observed only by collecting diverse and varied types of evidence. Consequently, my data sources vary by my research questions, and range from merged organizational-level statistics, to official documents, to affiliation and promotional data gathered from institutional websites, to phone interviews and finally to an assortment of complimentary secondary sources and anecdotal evidence. These varying types of data, in turn, required the adoption of divergent methodological techniques, including regression models (linear/Poisson), content analysis (visual/textual) and network visualization. Thus, my mix of theoretical influences created a need to collect a variety of data and engage in a range of analyses.

In addition to the previously stated factors, my decision to study PSE at the system level added further complexity to my methodological approach. As Clark (1983) notes, comparisons of disparate areas of PSE provide the analyst with the opportunity to uncover "the unique features and unconscious assumptions that possess our vision" when

we study a single area, generally the university sector, where most researchers are situated (p. 3). Yet, this approach, despite being consistent with ambitious directives laid out within the contemporary literature (see Kirst & Stevens, 2015), also led me to study organizational populations for which very little data is available (Pizarro Milian & Hicks, 2014). For instance, there are very few data on Ontario PCCs. It was therefore particularly difficult to make claims about cross-sector dynamics, or to draw cross-sector comparisons. On several occasions, I was forced to compare disparate measures or data sources. Thus, I engaged in a "trade-off" that contemporary researchers often make in order to examine system level trends in PSE, and to not ignore the vast majority of organizations within Ontario PSE, including the entire private sector.

Researchers who use highly specialized techniques may be sceptical of eclectic "mixing and matching" of data sources and techniques. Yet, mixed-methodology has gained currency across sociology in recent decades (Small, 2011). As Davies (2009) notes:

> Today most mainstream departments offer general courses covering several research methods, and/or specialist courses in both qualitative and quantitative approaches. Textbooks such as the numerous editions of Earl Babbie's The Practice of Social Research (2006, in its 11th edition at last count) extol the virtues of all approaches, calmly detailing the strengths and weaknesses of each, and presenting choices between methods as a series of trade-offs… Pluralism and ecumenism, not purism, is the stuff of the sermon. (p. 636)

Many mainstream researchers (Abbott, 2004; Davies, 2009; Creswell & Clark, 2007; Jick, 1979; Molina-Azorin, 2010; Noorgard, 1989) readily accept methodological plurality, and the idea that methods vary in their utility across terrains. Quantitative methodology or "standard causal analysis" is probably ideal for the task of generalizing

about broad populations, (Abbott, 2004), while "thick" descriptions of small social groups are best done with a qualitative lens (Woodside & Wilson, 2003). A combination of these approaches can provide several benefits, such as mediating the perceived weaknesses of a singular data source (Creswell & Clark, 2007), allowing one to triangulate empirical findings (see Campbell & Fiske, 1959; Denzin, 1978; Jick, 1979) and to ameliorate the perceived limitations of any one approach. As Abbott (2004) comically explains using a rock-paper-scissors analogy:

> Put any two studies using slightly different methods together, and one will seem to have a more effective method. We will then find that this method can be improved further by moving toward yet a third method. And that the third method may in turn be improved by moving toward the first! (p. 62)

In its totality, this dissertation also reflects a broader "ethos of discovery" (Abbott, 2004). Rather than allowing existing data sources and methodological normative standards to dictate the questions that I ask, I have worked in the reverse order. I have allowed my curiosity, based on insights from organizational theorizing, to determine the questions that I ask and phenomena that I examine. In turn, I have worked within the confines of strict temporal and financial constraints in order to amass enough empirical evidence, either through direct data gathering or secondary sources, to execute the analysis presented in this dissertation.

While traditional dissertations sequentially describe the characteristics of a singular data source, including details about how each measure was gathered, as well the methodological techniques applied to it, I adopt an alternative strategy. Below, I discuss the hypotheses explored in each chapter, as well as their corresponding methodological techniques and data sources. This chapter by chapter structure allows for a more fluid

presentation of this information. It also facilitates the cross-referencing of methodological details as the reader makes their way through the subsequent empirical chapters of this dissertation.

### *Chapter 5 – Hierarchical Structure of Ontario PSE*

In this first empirical chapter I sketch a preliminary image of the stratified structure of Ontario PSE, focusing on four important dimensions along which organizations differ, including (1) student flows, (2) student outcomes, (3) organizational resources and (4) organizational status. The lack of available data on this topic forces me to rely on a series of secondary sources in order to discuss student flows and outcomes. Yet, I am able to draw on data that I have manually collected in order to describe institutional-level stratification with respects to organizational resources and status. I draw on figures from institutional financial statements (2013-2014) and COU data on tri-council research funding (2013-2014) to produce descriptive statistics, Gini coefficients[70], boxplots and Lorenz curves[71] that allow me to examine the distribution of *financial resources* across the Ontario public PSE sectors. In doing so, I generally follow the methodology employed by Davies & Zarifa (2012) to examine institutional stratification within Canadian and American PSE. I also create a 'financial power' measure (Average Tuition x Total Enrolment) for PCCs using MTCU data (2012-2013). I then employ OLS regression models in order to explore the relationship between these measures of financial resources and *organizational age* (source: institutional websites) and *enrolments* (source: COU website). In order to examine *organizational status,* I draw on data from the

[70] I produced these using Stata's 'fastgini' function.
[71] I produced these using Stata's 'glcurve' function

Maclean's Magazine rankings during the 2009-2013 period. I produce standard deviations for institutional ranks, as well as time series plots in order to demonstrate the stability of institutional status hierarchies across time.

**Table 3. Chapter 5 - Select Measures and Data Sources, by section**

| Chapter Section | Select Measures | Select Data Sources |
|---|---|---|
| Student Flows | - Household Income<br>- Age<br>- Ethnic Diversity<br>- Financial aid | - Malatest & Associates (2008)<br>- Statistics Canada (i.e., Li, 2006)<br>- Maclean's Magazine (2011; 2013) |
| Student Outcomes | - OSAP default rates<br>- Graduate Income<br>- Employment rates | - Colleges Ontario (2008-2012)<br>- Statistics Canada (2011 Census)<br>- HESA (2012)<br>- OSAP (2014) |
| Organizational Resources | - Endowment<br>- Research funding | - Institutional financial statements<br>- MTCU data (2012-2013)<br>- COU data (2013-2014) |
| Organizational Status | - Institutional Rank | - Maclean's Rankings (2009-2013) |

## *Chapter 6 – Stratified Connections*

In the second empirical chapter, I examine hypotheses derived from new institutionalist and population ecology theorizing. These hypotheses pertain to the types of relationships that exist between different types of PSE organizations and their surrounding technical and institutional environments, with a particular focus on public universities and PCCs. These two sectors are the focus of my analysis in this chapter given that they constitute 'polar ends' of the technical-institutional environment

continuum[72]. As you may recall, the hypotheses developed in the theory chapter suggest that:

> **H1**: Public universities will respond strategically to their environment, protecting their core, while at the same time, exploiting lucrative opportunities made available by their immediate environments.
>
> **H2:** The characteristics (area of program specialization) of PCCs will be tightly coupled with their immediate environments.

I examine these two hypotheses by drawing on a combination of qualitative and quantitative data sources that speak to the types of relationships that these two institutional types share with their surrounding environments. Drawing on this variety of sources allows me to speak with greater confidence about observed empirical patterns, allowing me to triangulate my findings. More specifically, my analytic strategy is to examine these hypotheses at the system level (*local market/organizational population size*) and then proceed down levels of analysis, examining these organizational-environment relationships across specific regions (*analysis of three geographical regions*) and within a specific sector (*analysis of academic units in public universities*)[73].

## *Local Market and Organizational Population Size*

I begin by exploring the relationship that PSE organizations share with their surroundings by examining the relationship between (1) local market size and (2) organizational population size. My reasoning is that the location of PCCs, which are situated within largely technical environments, should be influenced more by local market size than that of public universities, which are situated in more institutional environments.

[72] This is explained in detail in both the theory and empirical chapter.
[73] See Abbott (2004) on the utility of switching levels (p. 142-144).

I operationalize local market size as the size of the population within a geographical region, whether it be a town (Grimsby, etc.) or city (Hamilton, etc.). I draw such figures from the most recent Statistics Canada (2011) census. In turn, I use STATA to create counts of PSE organizations present in 70 geographical regions within Ontario. The locations of these PSE organizations are accurate as of the summer of 2013, as listed on the Canadian Information Center for International Credentials (CICIC) directory. To analyze the statistical relationship between these two variables I use a Poisson regression model. I employ this type of regression, as opposed to *Ordinary Least Squares* (OLS) regression, given that my dependent variable is a count of PSE organizations present in each region. In addition, I draw on qualitative data, drawn from phone interviews with PCC administrators and a non-random sample of recent institutional documents (master campus plans), in order to contextualize my quantitative findings.

| **Table 4. Chapter 6 – Section 1 Variables** | | |
|---|---|---|
| **Variable Name** | **Type** | **Source** |
| "Organizational Population Size" | Numerical | Data Set, via CICIC website |
| "Local Market Size" | Numerical | 2011 Census (Stats Can) |

## *A Comparison of Three Geographical Regions*

I further examine the relationship that public universities and PCCs share with their surroundings by analyzing the correspondence between their internal structures (programs, research centres) and local environments. I conduct a holistic case study of three southwestern Ontario geographical regions: Mississauga, Hamilton and London[74].

[74] The decision to focus only a subset of the entire province was based on practical reasons. Conducting a provincial level analysis of the correspondence of PCC characteristics and their surrounding environments

According to the hypotheses mentioned above, as we look across these regions we should be able to observe public universities protecting their institutionalized core, consisting of a set of traditional academic programs and practises that possess no obvious link to local markets, while at the same time, capitalizing on lucrative opportunities, such as industry-funded research centres and chairs. PCCs, on the other hand, should be a mirror image of their surrounding labour market demands, with their fields of specialization corresponding with local industry.

My selection of geographical regions was guided by three particular concerns. First (1), I needed three regions that would be inhabited by at least one public university and a sizable group of PCCs. In the absence of these institutions, it would be impossible to undertake this analysis. The second (2) concern that guided my selection of geographical locations was the availability of reliable information on the characteristics of local economies. In particular, I was looking for regions where municipal governments, chambers of commerce and other established actors had produced enough documents to allow me to construct simple economic profiles for each region. My last (3) concern was finding regions that had local environments with unique characteristics, whether they be economic success (emerging/declining economies) or specializations in particular industrial sectors. I theorized that variability along these dimensions would make structural adaptations to them by PSE organizations more readily apparent.

Based on such criteria, I selected the Hamilton, Mississauga and London regions.

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would be unfeasible as a dissertation project, since one would have to acquire an understanding of the local labour market characteristics for each local region across the province, a feat which would comprise an entire dissertation by itself.

All of these regions had (1) a public university and large PCC populations, (2) a variety of documents published by municipal governments and chambers of commerce that described their local economies and (3) somewhat differentiated local environments. Having selected these three regions, I then set out to create an economic profile of each that was informed by the aforementioned documents. I supplemented the information that I gathered from said official documents with other sources, including labour market data made available by Statistics Canada as well as a non-random sample of recent news articles. This assortment of qualitative sources made it possible to develop a detailed understanding of each region's local environment to which the structures of local PSE organizations could be contrasted.

**Table 5. Chapter 6 – Section 2 Sources**

| **Document Type** | **Representative Sources** |
|---|---|
| Official Documents | - Statistics Canada (2011 Census)<br>- City of Mississauga<br>- City of Hamilton<br>- City of London<br>- Hamilton Economic Development Office<br>- London Economic Development Corporation<br>- London Chamber of Commerce |
| Institutional Websites | - www.mcmaster.ca<br>- www.utm.utoronto.ca<br>- www.uwo.ca |

My understanding of public university and PCC structures was developed using information made available through each PSE organization's website. This information was gathered over three 'waves' of data gathering and analysis. The first wave took place during the summer of 2013. At this date, I visited the websites of each PSE organization in the province, visually examining and manually recording organizational features like

area of specialization[75] and a variety of other variables not directly related to hypotheses under consideration. The second 'wave' took place during the summer of 2014, after I had selected the above mentioned geographical regions. At this later date, I conducted a more in-depth analysis of the websites of each organization within these regions. In case of public universities, I examined their (1) academic units (departments, research centres, institutes, etc.) as well as (2) industry funded research chairs. I also reviewed the type of (3) degree programs that they offered. Thankfully, these are details that public universities go out of their way to advertise. In the case of PCCs, I similarly looked for (4) program offerings or any other distinct structural characteristics. While reviewing these organizational features, I kept in mind the characteristics of the local environment within which they were embedded, attempting to suss out any potential links that existed between the two. The 'third wave' of analysis took place during the fall of 2015, as I drafted the final version of this chapter. During this last wave, I returned to institutional websites from which I had drawn important examples throughout my chapter in order to verify that my claims remained consistent with currently listed information.

### *An Analysis of Academic Units across Public Universities*

In this section, I proceed to focus more closely on the concept of core-isomorphism / peripheral risk-taking across the public university sector. I break this

[75] For public universities and colleges, this was relatively simple. Most were generalists, offering courses in a number of areas. For private career college and religious universities, categorizing areas of specialization was more difficult. Given the variety which exists within the sector, I thought it useful to not adopt an *a priori* classification scheme (for a discussion of classification schemes, see Brint [2013], Brint, Riddle & Hanneman [2006]; McKelvey [1982]). Instead, I allowed the scheme to emerge as I reviewed the websites of each organization. I developed the scheme through an iterative process, going from the data to the scheme and making required adjustments.

concept into two parts, mapping first what can be conceptualized as the institutionalized core that public universities protect from local environmental forces. If public universities are, in fact, protecting an institutionalized core, one should expect to observe a set of academic units across the sector, whether they be departments, schools or institutes, that share little correspondence with local environmental conditions. According to contemporary new institutionalist theorizing (Davies & Pizarro Milian, forthcoming), these are academic units that will be present across the sector because they have become a legitimized component of the ideal university. This institutionalized core should include traditional disciplines, like anthropology, classics and philosophy. Having addressed the first component, I then proceed to empirically examine peripheral risk-taking. As one looks across the sector, one should be able to identify unique academic units present at select public universities that are tightly coupled with the local economy.

In order to carry out this particular analysis, I gathered data on all of the academic units present in public universities across Ontario. During the summer of 2015, I visited the websites of each public university and recorded the name of each of their academic units (‘departments’, ‘schools’, ‘centres’, etc.). Given that universities aim to make information on each of their academic units accessible to potential applicants, this was a relatively easy task. I recorded these manually on to an Excel file, which proved to be the easiest way of copying and organizing the names of academic units from the web pages. I then used the text mining extension for the Rapidminer Studio software in order to produce counts for each word and n-gram in my Excel file. The latter is defined as a two-word combination that occurs in sequence (political_science, social_work, etc.). This

approach allowed me to acquire an understanding of the presence of academic units across the public university sector. I interpreted high-frequency academic units as the institutionalized core (core isomorphism) and low-frequency units as peripheral risk-taking.

## *Chapter 7 - Network Structures*

I used network theory in earlier chapters to hypothesize that "the Ontario PSE system should be composed of independent network clusters with levels of embeddedness corresponding with the status and age of organizations within them". To examine this topic, I conduct a multi-step qualitative analysis of network structures across Ontario PSE. The first step of my analysis entailed drawing on affiliation data from the data set I constructed during the summer of 2013 (also used in Chapter 6). This data set contains a listing of all affiliations that PSE organization advertised on their websites. I inputted this information into NodeXL, a network analysis extension for Microsoft Excel, to produce a series of socio-grams that served as visual representations of the network structures of each sector of Ontario PSE. These socio-grams were useful tools for network exploration and discovery, and their usage in this context resembles the use of box-plots and Lorenz curves within existing stratification research (Davies & Zarifa, 2012). The complexity of network structures, even within smaller sectors of Ontario PSE, is difficult to grasp until such networks are visually displayed. NodeXL allowed me to explore and manipulate socio-grams using a variety of algorithms that displayed network relationships in contrasting manners.

| **Table 6. Chapter 7 - Variables List** | | |
|---|---|---|
| **Variable Name** | **Type** | **Source** |
| "Advertise MTCU" | Dummy | Websites |
| "Advertise CCO" | Dummy | Websites |
| "Advertise NACC" | Dummy | Websites |
| "Advertise Accreditation" | String | Websites |
| "Advertise Other Trademark / Logo" | String | Websites |

Beyond mapping and exploring network structures, I also consulted the websites of all PSE associations listed in my dataset. In particular, I read the 'Main', 'About' and 'History' sections of each website. I used such data to develop a holistic understanding of important concepts described by network scholars (Uzzi & Gillepsie, 2002) as 'precursors' to embeddedness, including relationship age (how long organizations have been in contact), complexity (the ways in which organizations interact through an association), and network concentration (the proportion of eligible organizations that interact through an association). An analysis of these factors allowed me to get a better grasp of the characteristics of network ties. These concepts, and their relationship to embeddedness, are explained in greater detail in the theory and empirical chapters.

| **Table 7. Chapter 7 – Sources** | |
|---|---|
| **Type** | **Source** |
| "Main", "About", "History" Sections | - 187 Association Websites (PCC 160, PRU 8, PC 8, PU 11) |
| Interviews (21) | Truck Driver Training School |

I deemed website visits as a sound way to investigate the network structures of most PSE organizations. Most schools and associations within the public, as well as PRU sector, maintain very informative and up to date websites. In the rare event that particular

details were missing from them (e.g. establishment dates), the relative popularity of these entities ensured that I was able to find such information in secondary sources (research, institutional documents, etc.). There is, for example, an entire book written on the history of the Council of Ontario Universities, one of the primary associations within the public university sector. The same cannot be said about PCCs. During my first review of PCC websites in 2013, it became apparent that much of the sector has a very basic online presence that provides clear price and contact information, but relatively scarce details about other aspects of organizational life. I came across numerous websites that contained technical glitches. Others were also found to be deactivated. Some of these problems even extended to the websites of associations within the sector. This combination of factors made me hesitant to rely exclusively on website visits for the purposes of understanding network structures within the sector. To address this problem, I supplemented the website data gathered on PCCs with phone interviews conducted with school administrators within one specific program area: truck driving instruction. This data was meant to provide a more in-depth understanding of network structures within one niche of the sector. The goal of these interviews was to explore the relationships between PCCs, as well as the functions performed by associations within this program area. Adopting such a methodological approach at the sector level would be unfeasible given its enormous size. But, by focusing on this specific sub-sector, I expected to find dynamics that may be characteristic of broader trends. A total of 21 phone interviews were done with school administrators, taking anywhere from 12 to 42 minutes to complete. During these

interviews I recorded information manually using pen and paper[76]. These rendered anywhere from one to two typed, single-spaced pages of relevant data. I began by targeting truck training schools in the Hamilton area and then proceeded outward based on recommendations made by administrators with respect to who was likely to speak to me within the industry.

### *Chapter 8 – Old Institutionalism*

To recapitulate, the fourth empirical chapter examines branding strategies across Ontario PSE. The first hypothesis examined pertains to the branding strategies employed by older PSE organizations – the expectation being that they utilize powerful organizational symbols to signal legitimacy to observers[77]. Having had more time to experience organizational conflict, develop sagas and symbols (Clark, 1971; 1972), public universities are expected to adopt this resource to lure in potential members. The second hypothesis pertains to the branding strategies of newer institutions – the expectation being that they will rely on performance indicators, such as (1) testimonials and (2) statistics, to broadcast their quality to potential members. I resort again to a mixed-methods approach in this chapter in order to examine these hypotheses. I draw on data gathered during the summer of 2013 through websites visits. This data set includes a series of dummy variables and notes corresponding to 16 visual website characteristics, some of which are

[76] The PCC sector is marked by a high degree of suspicion towards outsiders. In recent years, a series of undercover investigations conducted by Toronto Star reporters have blasted the sector for its poor quality. The Ombudsman of Ontario has also been very critical of PCCs. Likely as a result of this scrutiny, it is incredibly difficult to get anyone within the sector to speak with a researcher. The challenge of recruitment is one that I believed would be magnified by attempting to record interviews. I anticipated that PCC administrators would be averse to participating in interviews where they would be recorded, or would censor themselves if they agreed to participate. This was the primary logic behind my decision to not tape interviews.

[77] See theory and empirical chapter for an in-depth discussion of this concept.

also leveraged in the network theory chapter. This included measures of a variety of advertising 'strategies', including the flagging of specialties in school names, listing of affiliations, as well as the posting of student outcomes, logos, trademarks, testimonials, student pictures and a variety of other ancillary visual characteristics of institutional websites. In addition to my written notes, I also took a variety of screenshots using an extension for the Google Chrome browser. Content analysis of this type is common used throughout the literature on advertising (Gordon & Berhow, 2009; Pegoraro, 2009; Saichaie, 2011; Yoo & Jin, 2004) and corporatization (Holloway & Holloway, 2005; Baruch, 2006; Drori & Delmestri & Oberg, 2013) within PSE. I complimented my first wave of data gathering during the summer of 2013 with more focused follow-up phases in the winter of 2014 and fall of 2015. At these later dates, I focused on a smaller sample of organizations, including all public universities, colleges and PRUs, as well as a subset of PCCs that I had initially flagged in 2013 as employing statistics and testimonials (30 of each).

| **Table 8. Chapter 8 Variable List** | |
|---|---|
| **Variable Name** | **Type** |
| "Specialty in Name" | Dummy |
| "Student Outcomes" | Dummy / String |
| "Testimonials" | Dummy / String |
| "Picture of Students" | Dummy / String |
| "Trademarks" | String |
| "Logos" | String |
| "Mottos" | Dummy / String |

## Conclusion

This dissertation employs a variety of methods and data sources in order to

examine the validity of the hypotheses derived from diverse organizational theories. In doing so, it differs from traditional mixed-methods projects in important ways. While many mixed-methods projects strategically combine quantitative (e.g. surveys) and qualitative components (e.g. interviews) simply to triangulate findings and mediate the weaknesses of singular data sources, this project also arrives at such a methodological position through what I have described earlier as an 'ethos of discovery', allowing my curiosity and existing insights within organizational theory to guide the type of questions that I ask. One of the primary products of this exercise is a more comprehensive analysis of the hierarchical structures of Ontario PSE than one might conduct by adopting a singular method and sector of the system. An obvious trade off with this strategy is that the range of my analyses sacrifices some depth. Methodological specialists might argue that it would be best to deepen only some investigations using a single consistent method, rather than using a plurality of methods to address a host of research questions. Acknowledging its limits, I have chosen to attempt a far-ranging, holistic approach in an effort to analyze Ontario's full PSE system. After my dissertation has been defended, I will likely return to many of my data sources and conduct more specialized analyses, with the aim of developing articles out of this dissertation. I document some of these future lines of research in the conclusion chapter.

# Chapter 5

## The Hierarchical Structure of Ontario PSE

Before analyzing the hierarchical structure of Ontario PSE, we need to highlight some of the characteristics that distinguish it from systems in other English-speaking nations. Ontario PSE is composed of four distinct sectors, including (1) public universities, (2) public colleges, (3) private religious universities and (4) PCCs, each with very strong boundaries. The behaviour of each is tightly controlled by the provincial Ministry of Training, Colleges & Universities (MTCU). Thus, for example, only universities are given the freedom to grant secular credentials at the degree level, while others are forced to apply for Ministerial approval in order to be allowed to participate in this market (Pizarro Milian & Hicks, 2014). These strict sectorial boundaries have not only sheltered the public university sector from competition, but also, produced very specialized sectors which seldom engage in direct competition. Public universities focus on secular degree granting; private religious universities on theological degree granting and public colleges and PCCs on more vocational-type training at the sub-degree level. This contrasts the U.S. system, where vastly different organizational types, such as liberal arts colleges and flagship universities, regularly compete for the same pool of applicants (Stevens, 2007; Kirst & Stevens, 2015).

Given these characteristics, it is important to provide a basic description of the hierarchical structure of Ontario PSE before developing a more sophisticated, organizationally-informed understanding of such phenomena. To do so, I focus on both (1) *within sector* and (2) *between sector* forms of organizational differentiation. I begin by

first drawing on the existing literature which comments on the nature of (1) *student flows* and (2) *outcomes* within and across each sector of Ontario PSE. This initial phase of analysis corresponds neatly with Boudon's (1974) theorizing. I then build on this work, drawing on a host of additional sources, including publicly available data (*Maclean's* rankings, anecdotal sources, etc.) and my own data set in order to explain how the distribution of organizational (3) *financial resources* and (4) *prestige* across Ontario PSE aligns almost perfectly with documented student flows and outcomes. The image which emerges from this exercise is clear: from every vantage point, public universities constitute the premier organizational type, followed by public colleges, private universities, and at a distance, PCCs. There is also a distinct ordering of organizations within each of these sectors. I discuss these topics, and more, below.

## Student Flows

### *Between Sector Differences*

Available data on student flows in Ontario PSE is extremely limited. Many of the sources on PCC students (Malatest & Associates, 2008; Li, 2006), for example, are dated. Such sources also tend to present data on students at the national as opposed to provincial level, forcing those interested in Ontario to make inferences based on national data. Other available sources (Bayard & Greenlee, 2009) documenting student flows across the system do not usefully distinguish between private and public organizations, lumping their graduates together at each credential level. As a result of these data deficiencies, one has to be very creative to develop an understanding of student flows within the province, cobbling together a diverse group of sources ranging from aged reports (Bayard &

Greenlee, 2009; Malatest & Associates, 2008) and even anecdotal evidence (TLIP, 2013; magazine articles, etc.). This approach does not produce a definitive picture of student flows within the province. Better data is needed. Nonetheless, available data do allow for a suggestive and useful description of broad patterns within the system.

Existing studies suggest that there are stark differences among types of students enrolled in each sector of Ontario PSE. All available sources (Pizarro Milian & Hicks, 2014; TLIP, 2013; Malatest & Associates, 2008) agree that students entering the PCC sector are disadvantaged relative to their public sector counterparts in several ways. At the national level, we know that students at PCCs are more (25%) likely to be recent immigrants than counterparts across other sectors (Malatest & Associates, 2008). There is also evidence which indicates that a similar trend holds true within the Greater Toronto Area (TLIP, 2013). At the national level, PCC students are also most likely to come from lower-income families, with 39% of them reporting household incomes under $20,000 per year (Malatest & Associates, 2008, p. vii). Students at Canadian PCCs also tend to be older than their counterparts in the public sector, with roughly half (48%) of them being 25 years or older (Malatest & Associates, 2008). As a result, they are likelier to have dependants, with a third (33%) being responsible for a child, a figure substantially higher than that (17%) of students within the public PSE sectors (Malatest & Associates, 2008, p. 10). Students enrolled in PCCs are also distinct given that a significant proportion (60%) did not begin post-secondary studies immediately out of high school due to uncertainty about their career (44%), personal or family issues (20%), financial barriers (27%) and a lack of interest (18%) (Malatest & Associates, 2008).

Based on such characteristics, PCC students appear to not fit the profile of 'traditional' PSE students: teenagers who enter the system directly from high school, without their own children and with minimal employment experience (see Deil-Amen [2015] for a discussion of trends in the U.S.). PCC students appear to be a different "breed": they are older, have kids and are in search of new (and relatively quickly attained) credentials that will help them switch careers. This demographic is one that has been termed by Clarke Kerr (2002) as the "Market II" of PSE. Traditionally, PCCs in Ontario have possessed a virtual monopoly over this market niche but, over time, intensifying competition for financial resources (Davies & Zarifa, 2012) has lead organizations in other sectors, including those which traditional ignored these students, to reach into this market by facilitating part-time enrolment, online and distance education, and non-degree programs (Kerr, 1994)[78].

Data on Ontario public college students reveal several similarities as well as differences relative to PCC counterparts. Public college students are much younger, with 81% being under 25 years old (Colleges Ontario, 2014), suggesting they are less likely to have dependents. Public college students are also more likely to be born in Canada (84%)

[78] It is unlikely that Ontario PCC students are greatly unlike the national level characteristics described by Malatest & Associates (2008), since PCC students appear to have similar traits across North America (also see Deil-Amen, 2015). Apling's (1993) work on the American PCC sector found that approximately 40% of students belonged to ethnic minorities, a figure much higher than the 25% which attended public community colleges across America (p. 392). Such findings replicate the results of research (Friedlander, 1975) on American PCCs conducted as early as the 1970s. Aipling (1993) also highlighted that students at PCCs were more likely to come from lower-income and less educated families. This point, again, echoes earlier research on the American PCC sector. American researchers (Belitsky, 1970) have long believed that it was likely that students at PCC were "predominantly from middle-income families where the father is not employed in a professional or managerial position" (p. 14-15). The similarities between students within the Canadian and United States PCC sectors, as well as the long term consistency of observed trends in the United States, make it reasonable to assume that Ontario will not deviate significantly from these observed patterns at the national level.

and less likely to come from low-income families, with only 27% of students reporting household incomes beneath $30,000 (Colleges Ontario, 2014). However, like their private counterparts, many public college take non-traditional routes into PSE. Many have either delayed (26%) their entry to engage in non-academic activities (work, etc.), or entered the sector after having entirely (25%) or partially (18%) completed other PSE programs (Colleges Ontario, 2014). Thus, public college students are far younger and less disadvantaged than their PCC counterparts, yet many take non-traditional routes when entering PSE.

Unlike Colleges Ontario, the Council of Ontario Universities (COU) does not make demographic data available for students within its sector. This, of course, serves as a barrier on the path to understanding the type of students which flow through it. That being said, we are able to learn about some of the characteristics of university students through a handful of existing policy reports (Academica, 2005; Greenlee & Bayard, 2009; Dooley, Payne & Robb, 2009) and academic studies. Ten years ago, Academica (2005) documented the findings of the 2005 Ontario University Applicant Survey. This report highlighted that:

> …the typical applicant to an Ontario university is female, age 18, applying directly from high school with an A- average. Born in 1987, she likely resides in suburban Toronto, in a two-parent household with annual income in the range of $60,000-$80,000. Her family has probably been in Canada for at least two generations, and she is twice as likely as most Canadians to have a university educated father, most often with a BA or advanced degree, while her mother may have been to college or university. She is applying to the Humanities or Social Sciences, and likely hopes to complete a Masters degree, but certainly not an MBA... (p. 1)

This description of the modal applicant to Ontario public universities resembles the "traditional" PSE student, and tends to confirm other reports and studies.

For instance, Greenlee & Bayard, (2009) have indicated that, at the national level, university students in Canada are younger than their college level counterparts. They are also more likely to arrive at public universities directly from high school, with 63% having no previous PSE experience (Greenlee & Bayard, 2009). Based on Dooley, Payne & Robb's (2009) work, we also know that students from lower income neighbourhoods are much less likely to apply, and thus, attend university. In Ontario, approximately 40 per cent of high schools in low income areas (average household income of >$54,500 a year) have an application rate at or below 25% (Dooley, Payne & Robb, 2009, p. 18). Meanwhile, high schools in high income (<$75,200) areas have an application rate that hovers around 50 per cent (Dooley, Payne & Robb, 2009, p. 18). There is also national level data which suggests that the university sector is the preferred pathway of not only whites, but also, high ability/motivation ethnic groups, including East Asians (Thiessen, 2009). These are all trends that tend to coincide more or less with the findings of American researchers (Mullen, 2010; Brint & Karabel, 1991; Karabel, 2005) who have studied student populations at high and low-status PSE organizations. They also coincide with cross-national research (Heath & Brinbaum, 2007) outlining ethnic group disparities in educational attainment.

Combined, these sources suggest the following broad patterns. PCCs tend to have relatively disadvantaged students, including lower-income immigrants transitioning into the Canadian labour market, older individuals with children who have delayed entry into

PSE for a myriad of reasons. Students at public colleges are far younger and more affluent, though share a similar pathway by rarely entering the sector directly from high school. The similarities between these two student groups likely reflect the large number of programs in both of these sectors with relatively low admission standards[79]. In PCCs, admission requirements are often minimal (i.e. having an OSSD). Meanwhile, public colleges offer a variety of ways for students to meet their relatively modest requirements[80]. Both sectors also offer credentials which can be attained relatively quickly, and serve as pathways to low-status, yet decent paying occupations. For example, through a college one can become a plumber (median hourly wage: $25.80), carpenter ($23) or welder ($23), all of which constitute 'steps up' from regular service jobs, such as a customer service clerk ($16.20)[81]. Given such characteristics, these two sectors serve as ideal pathways for those who have, for whichever reason (financial, academic competency, etc.), not previously entered the public university sector. Alternatively, many enrol in technical programs after acquiring credentials from public universities, though these students see low economic returns (see Walters, 2003). Public universities, on the other hand, appear to be the pathway of choice for traditional high ability/motivation students from more affluent backgrounds.

[79] There are several important exceptions to this statement, the most notable one of which is nursing. Acceptance into this program at Mohawk College, for example, requires the completion of numerous grade 12 u-level science, math and English courses with a 75% average. Such requirements are arguably tougher than those required at the neighbouring McMaster University for social sciences, which only requires students to have taken a grade 12 University-level course and achieved an average of 75-78%.
[80] Mohawk College, for example, offers a variety of 'pre' programs which prepare students to enter programs in health, technology and sciences for which they do not possess the required prerequisites.
[81] All figures drawn from JobBank.ca

Unfortunately, there is no available data or research on the characteristics of private religious university students in Ontario. Several statements can be made about this group of students, though. For starters, they are likely to be relatively wealthy in comparison to their counterparts across the system judging by the tuition fees they pay. Across numerous institutions, such as the Canadian Christian College ($5,900), Institute for Christian Studies ($7,650, plus additional fees) and Emmanuel Bible College ($5,100), tuition runs double of that regularly charged by public colleges. In addition, tuition at Redeemer ($15,000), Master's College & Seminary ($13,000, plus other fees[82]) and Tyndale ($13,000, plus additional fees) during the 2014-2015 academic years is almost twice of that charged within the public university sector.[83]. Alternatively, these students could have institutional backing, sponsored by the particular denomination in which they seek employment. At the K-12 level, it is not uncommon for religious bodies (churches, dioceses) to directly subsidize the cost of private religious education (see Baker, 2007).

Beyond being potentially wealthier, students at private universities are also likely to be more religious than their counterparts across the system, since all private universities in Ontario offer faith-based education. With notable exceptions, such as Tyndale and Redeemer, organizations which offer programs across a variety of disciplines, students at other more specialized organizations (seminaries, etc.) tend to

[82] Estimate based on a 10 course per year load.

[83] Across most private universities, admission standards are comparable to those of public universities, and so their students would otherwise be eligible to enter public institutions, but choose to undertake more expensive training at private ones. This exhibits a very low degree of cost aversion, one that is likely to go along with higher resources. Their position is very different from that of private career college students, who undertake higher tuition but who are often not qualified to enter public institutions.

enrol in programs which put them on the path to becoming religious leaders, such as ministers and pastors. The closest counterparts to these individuals within the public sector are those found in specialized schools of divinity and theology. Beyond these basic characteristics, little else can be said with confidence about students in Ontario private universities. This is an area that would certainly benefit from future research.

### *Within Sector Differences*

Beyond these "between sector" differences in student flows, there is also reason to expect a high degree of "within sector" variation within Ontario PSE. American research has repeatedly shown that students at prestigious universities possess SES backgrounds that strongly contrast that of those at more humble institutions (Espenshade & Radford, 2009; Karabel, 2005; Mullen, 2010; Radford, 2013; Stevens, 2007). Researchers have yet to empirically map the extent to which these trends characterize Canadian PSE, yet it is reasonable to assume that similar social processes are at play. A combination of existing scholarly sources (e.g. Baker, 2014; Davies, Maldonado & Zarifa, 2014) and anecdotal evidence in news magazines, such as *Maclean's*, can help us to hash out a rough understanding of these differences within the Ontario public university sector. This an area in which additional empirical research is definitely needed.

Queen's University has long been perceived as the school for wealthy students[84] that do not migrate to elite American or British universities (Baker, 2014). This perception is generally supported by recent financial aid figures. A recent *Maclean's*

[84] See http://www.macleans.ca/education/uniandcollege/where-the-rich-kids-go/, or http://www.macleans.ca/education/uniandcollege/fake-queens-university-advertisement-plays-up-sterotypes/

(2011) article, for example, suggests that only 29.6% of students at Queen's received financial aid from the provincial government, a minute figure compared to the percentage of students at lower-status universities like Nipissing (59.6%) and Trent (59.3%)[85]. Queen's appears to attract a more affluent crowd (but one that is also academically accomplished) than other institutions within the sector. Contrasting Queen's reputation is Western, informally known to be the playground of the less academically inclined affluent students within the province. This second institution has recently been ranked by *Playboy Magazine* as one of North America's best party schools[86]. As one *Maclean's* (2013) article suggests, the stereotypical female student at Western is:

> …the girl you love to hate... blonde, pretty, and fond of Ugg boots, Lululemon yoga pants or Ray Bans... She's well-off to the point of being spoiled. She doesn't care much about school. Primping and partying are her priorities. She's everything a good teen movie villainess should be. She's Regina George, the Queen Bee from Tina Fey's flick *Mean Girls* and living in London, Ontario…[87]

Such description resonates with the recent work of Armstrong & Hamilton (2013), who documented the experiences of relatively affluent female students at a mid-tier American state university[88].

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[85] Along with being characterized as 'rich', students and administrators at Queen's have also been characterized as somewhat 'snobby', believing themselves to be better than their peers at other institutions. A recently leaked memo from the president of Queen's, for example, suggested that "It would have been unthinkable 20 years ago that the quality reputation of undergraduate education at Queen's would be challenged by Waterloo and McMaster …to say nothing of Guelph – but it is clearly happening". Moreover, such letter noted that Queen's affinity to the American Ivy League universities was unmatched by other Canadian universities. See http://www.macleans.ca/education/uniandcollege/queens-quality-compromised-wrote-president-in-leaked-letter/

[86] See http://www.macleans.ca/education/uniandcollege/playboy-ranks-western-a-top-10-party-school/

[87] See http://www.macleans.ca/education/uniandcollege/that-typical-western-girl/

[88] The similarities between Queen's and Western have resulted in a rivalry that is reminiscent of that which exists between Ivy League universities south of the border. As a Globe and Mail (2012) reflected, these schools regularly compete for the OUA men's rugby championship. The antics which surround such competition include a heavy dose of "chirping", bus-loads of students making the 450 kilometer trek

Davies, Maldonado & Zarifa (2014) provide evidence that students from different socio-economic backgrounds in Toronto are concentrated at particular Ontario public universities. Their findings suggest that the "geography of student choice of university across Toronto illustrates how affluent youth avoid lesser ranked institutions" (Davies, Maldonado & Zarifa, 2014, p. 28). Their data show that local students who chose to attend York, a large and relatively lower-status Ontario university, were unlikely to originate from the region's most affluent neighbourhoods. Meanwhile, those who selected Queen's hailed from the region's wealthy neighbourhoods, such as the "Yonge Street corridor, Bridal Path, Kingsway, and Beaches", with relatively few coming from "humbler areas like York, Rexdale, Downsview, and Scarborough" (Davies, Maldonado & Zarifa, 2014, p. 28).

It is unsurprising that affluent student groups have self-selected into particular public universities in Ontario, such as Queen's and Western. Existing research (Steele, 2008; Baker, 2014) has long noted that Canadian students have very strong opinions about local schools. There are "elite schools" (Steele, 2008) or "major schools" (Baker, 2014), such as Queen's, distinguished by their academic prestige and relative selectivity. There are "outcome schools", such as Waterloo, distinguished from others by their ability to help graduates land high-quality jobs in specific industries (Steele, 2008). "Campus schools", on the other hand, such as Western, primarily attract students due to their vibrant school cultures, physical facilities (residences, etc.) and extracurricular activities (athletics, bars, etc.) (Steele, 2008). "Nurturing schools", such as Trent, are attractive due

between campuses and a group of alumni who lives vicariously through their younger counterparts.

to their small classes and school populations, as well as community safety (i.e. small towns) (Steele, 2008). There are also "commodity schools", those who's bursaries, low tuition and living costs make them relatively cheaper than their counterparts (Steele, 2008). The presence of these strong school reputations imply that certain groups of students tend to gravitate towards those which correspond with their goals and financial resources.

## Student Outcomes

### *Between Sector Differences*

As with student flows, available measures provide us with a rough impression of how Ontario PSE system is hierarchically structured. Outcomes are particularly salient indicators of the hierarchical structures of PSE because, as Clark (1983) notes, "occupation and social roles are ranked by the public as well as by incumbents; and institutions that place their graduates differentially are assigned different levels of prestige" (p. 63). With respects to the financial success of their graduates, as measured by OSAP default rates, those who have attended PCCs have the highest figures (21%), trailed at a distance by those who have attended public colleges (13%) or universities (5%) (Pizarro Milian & Hicks, 2014, p. 27). PCCs also tend to perform worse than the private universities for which OSAP (2014) data is publicly available. Both Redeemer (3.6%) and Tyndale (3.1%) have respectable default rates (OSAP, 2014). This relative lack of financial success occurs even though studies have found that the PCC sector "boasts graduation rates of slightly over 80%", a figure which makes it "comparable to or better than community colleges" in this regard (HESA, 2012, p. 1). As a point of

reference, the public college sector has had an average graduation rate of approximately 65% in recent years (Colleges Ontario, 2012; 2011; 2010; 2009; 2008).

| **Table 9. Default Rate by Sector (2012)** | | | | |
|---|---|---|---|---|
| **Financial Measure** | **PCCs** | **Public College** | **Private University** | **Public University** |
| Default Rate | 20.6% | 13.4% | N/A Sector-Wide | 4.6% |
| Source: OSAP[89] | | | | |

Another more direct indicator of student financial success, graduate income, is also available. We know that individuals across the nation who possess college diplomas and certificates ($41,600) tend to have lower median salaries than those who possess university level credentials, such as undergraduate ($53,000), masters ($70,000) or doctoral ($75,000) degrees (Statistics Canada, 2015). Such findings are in line with previous research (Walters, 2004) on the returns to specific PSE credentials. Walters (2004), for example, found that "trades, and then college, graduates are clearly at the bottom of the earnings hierarchy" within the Canadian context (p. 12). This cited research does not distinguish between private and public organizations. But, older research (Malatest & Associates, 2008) has also shown us that, six months after graduation, graduates with Canadian PCC credentials earned a salary of approximately $26,000 a year, a figure much smaller than that of public college ($34,000) graduates[90].

[89] See https://osap.gov.on.ca/prodconsumption/groups/osap_web_contents/documents/osap_web_contents/prdr007644.pdf

[90] By some accounts, these would be flattering assessments of the outcomes produced by private career colleges. Previous research has found that differences in median yearly salaries earned by graduates with high school and private career college credentials working on a full-time basis were not statistically significant (Li, 2006). Such work has found that attending a private career college only improved the chances of an individual finding employment, not the rate of pay, relative to high school graduate. This

The trends discussed above are in line with other important outcomes. Unemployment rates have traditionally been better for those with a BA degree than certificate/diploma holders (Bayard & Greenlee, 2009). We also know that public PSE organizations outperform PCCs with respect to where they allocate their graduates within the labour market. Only about 84% of graduates from PCCs are employed in an area related to the program they most recently completed, a figure smaller than that of public colleges (90%) and universities (94%) (Pizarro Milian & Hicks, 2014).

These outcomes paint a neat image of the stratified structure of the Ontario PSE system. On average, public universities tend to produce the best financial results for their graduates, followed by public colleges. PCCs trail behind at a distance. The almost complete absence of data on private universities makes their position unclear. Since Canadian BA graduates perform well according to many metrics (Bayard & Greenlee, 2009; Statistics Canada, 2015), graduates of private universities likely enjoy similar benefits, though the religious content of their credentials may hinder economic returns, especially within a Canadian system where discipline is an important determinant of return on investment (Davies & Hammack, 2005).

## Organizational Resources

Ontario PSE organizations are also stratified by their financial resources. Using the data drawn from the financial reports (2014) posted on institutional websites, we can see that the public university sector reigns supreme with an average endowment of almost $300 million. The University of Toronto leads the pack with an endowment of almost

finding is in line with previous research (Grubb, 1993) on American PCCs, which has found that dropouts from career colleges earned less than regular high school graduates.

$1.9 billion, which is comparable to the combined resources of the next three wealthiest public universities. Other large research universities in the province have also managed to accumulate substantial wealth: Queen's (0.8 billion), McMaster (0.5 billion) and Western (0.5 billion). Even relative minnows within the sector, such as Nipissing, OCAD and UOIT, possess endowments breaching the ten-million-dollar mark. On average, public universities are the wealthiest organizations in the Ontario PSE system. Public colleges are relatively poor in comparison, with an average endowment of just under $10 million. Several large colleges have managed to eclipse the ten-million-dollar mark, including Sheridan (~$31 million), Centennial (~$19 million), Seneca (~$16 million) and Mohawk (~$15 million). This makes them comparable to, or wealthier, than a host of smaller universities, such as Nipissing or OCAD (both ~$11 million). But there are also a group of financially strapped public colleges, including the likes of Canadore ($126,000), Niagara (~$186,000), Fanshawe (~$312,000) and Fleming (~$895,000), who do not break the million-dollar mark. When controlling for organizational size, the observed differences in resources persist, although at a lower level. Endowment per student figures within the public university sector are more than 10 times higher than within the public college sector.

**Table 10. Endowments per PSE sector**

| Sector | Mean Endowment | Endowment per student | Freq. |
|---|---|---|---|
| Public College | 9,460,896.7 | 1284.5 | 20[91] |
| Public University | 299,900,000 | 13823.1 | 19[92] |
| Total | 150,900,000 | 7393.051 | 39 |

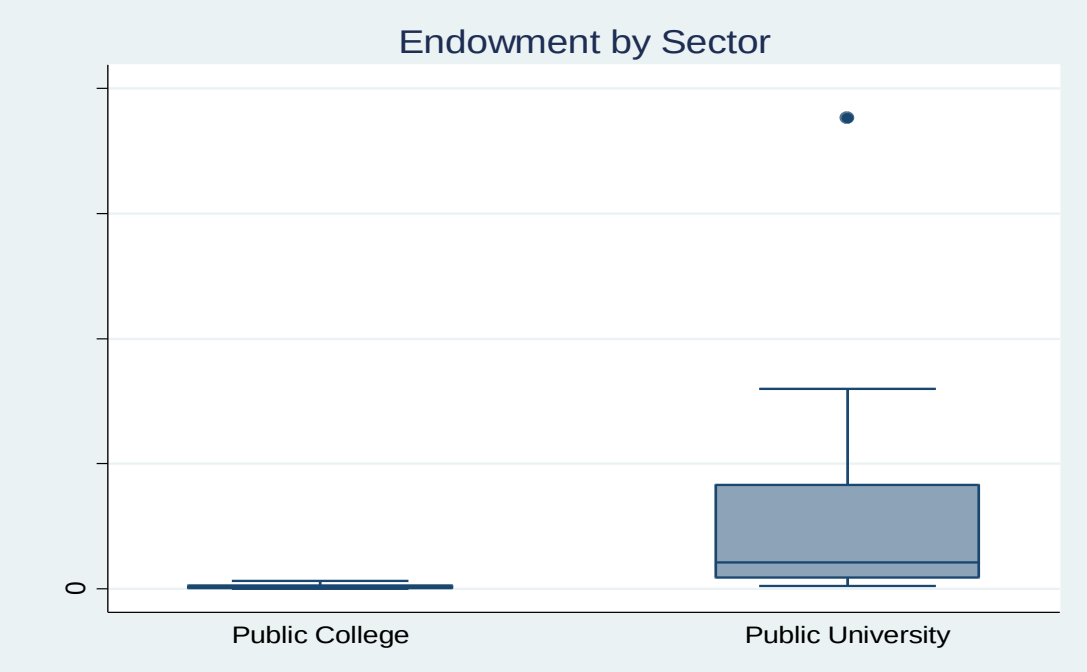
Source: Institutional financial statements for 2013-2014.

Box plots allow one to visually compare the distribution of financial resources across these two particular sectors. Figure 1 shows far more variation across this dimension within the public university sector than across public colleges. In fact, the entire range of the distribution of financial resources across the public college sector fits within roughly the same space on the graph as the bottom two quartiles of the distribution of financial resources within the public university sector.

[91] The COU does not make figures available for smaller universities like Dominican and Algoma, nor the RMC.

[92] I draw directly from the financial statements made available by public colleges. I exclude French colleges (Boreal, La Cite) which do not make their financial reports available in English.

**Figure 1.**




Gini coefficients suggest a high degree (.78) of inequality across the two public sectors[93]. To put this figure into context, it is comparable to the degree of income inequality that existed within South Africa in the heyday of apartheid during 1970s (see van Zanden et al, 2014). Comparing the two sectors, the Gini coefficients echo the conclusions drawn from the box plots: there is more inequality across public universities (.62) than colleges (.46). Accounting for institutional size (enrollments) reduces observed levels of inequality across the system and within sectors. Nonetheless, the observed order persists: there is high degree of system level differentiation and lower levels of within sector stratification.

[93] As a reminder, with Gini coefficients, a value of 0 represents an ideal state of perfect equality, where all organizations have identical financial resources. Meanwhile, a value of 1 represents a state of perfect inequality, where one actor holds all of the available resources.

**Table 11. Gini Coefficients for Endowment and per-student Endowments**

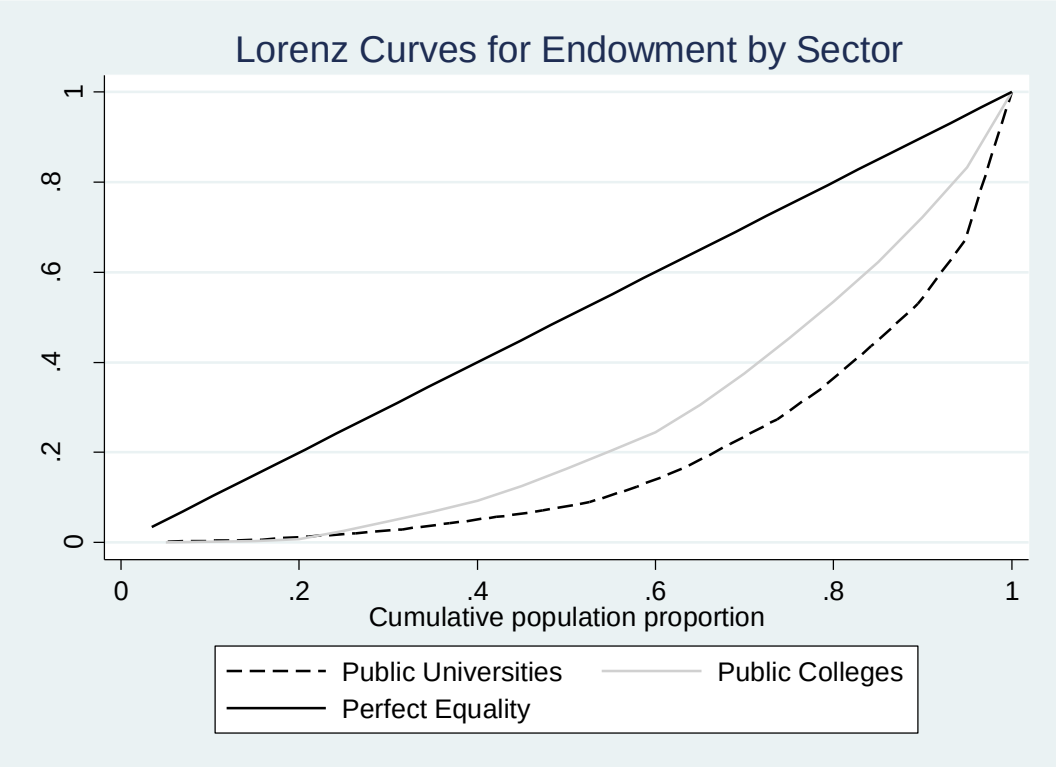
| Sector | Gini – Endowment | Gini - per student endowment | Freq. |
|---|---|---|---|
| Public College | 0.47 | 0.41 | 20[94] |
| Public University | 0.62 | 0.45 | 19[95] |
| Total | 0.78 | 0.62 | 39 |

Source: Institutional financial statements 2013-2014

Below, I graph these Gini coefficients side by side using Lorenz curves[96]. A visual inspection of the Lorenz curves reveals no surprises. The curve for the public university sector deviates further from the line of perfect equality than that of the public college sector. This, of course, is to be expected given the relatively higher Gini coefficient for the public university sector.

[94] The COU does not make figures available for smaller universities like Dominican and Algoma, nor the RMC.
[95] I draw directly from the financial statements of public colleges. I exclude French colleges (Boreal, La Cite) which do not make their financial reports available in English.
[96] Recall that Gini coefficients represent the ratio of the area which lays between the regression line (the line of "perfect equality"), while the Lorenz curve measures the area between the lines of perfect equality and inequality.

**Figure 2.**




There is no comparable endowment data for private universities or PCCs. The financial data that has been made available (see Pizarro Milian & Hicks, 2014) by the Ministry of Training, Colleges & Universities (MTCU) has shown that PCCs are generally small businesses. Around two thirds have annual earnings below $1 million (Pizarro Milian & Hicks, 2014). At the other extreme, only a handful of PCCs have earnings over $25 million a year (Pizarro Milian & Hicks, 2014). These are tiny figures considering that total revenues average $100,000,000 within the public college and $400,000,000 within the public university sector in Ontario (Pizarro Milian & Hicks, 2014, p. 13). This gap between the PCCs and the other sectors may have widened in recent years (Li, 2006).

Since PCC financial data are available only at an aggregate level, one cannot generate Gini coefficients to measure financial inequality within that sector. Yet, it is possible to obtain a rough estimate of their revenues by multiplying the average tuition[97] charged by each PCC by their number of students. However, this estimate does not take into account accumulated assets over the years, though as small for-profit entities (Pizarro Milian & Hicks, 2014), PCCs tend not pad their bank accounts in the same way as public universities or colleges when they produce profits. Their owners actively draw on their revenue to support their own livelihood. Hence, one can expect that any money not spent on expenses (salaries, etc.) or acquiring physical assets (buildings, equipment) is effectively lost to the organization. Another problem with this estimate is that at some PCCs, students might be unevenly distributed across programs that charge higher or lower tuition than the average tuition. However, there is no reason why these estimates would be systematically biased.

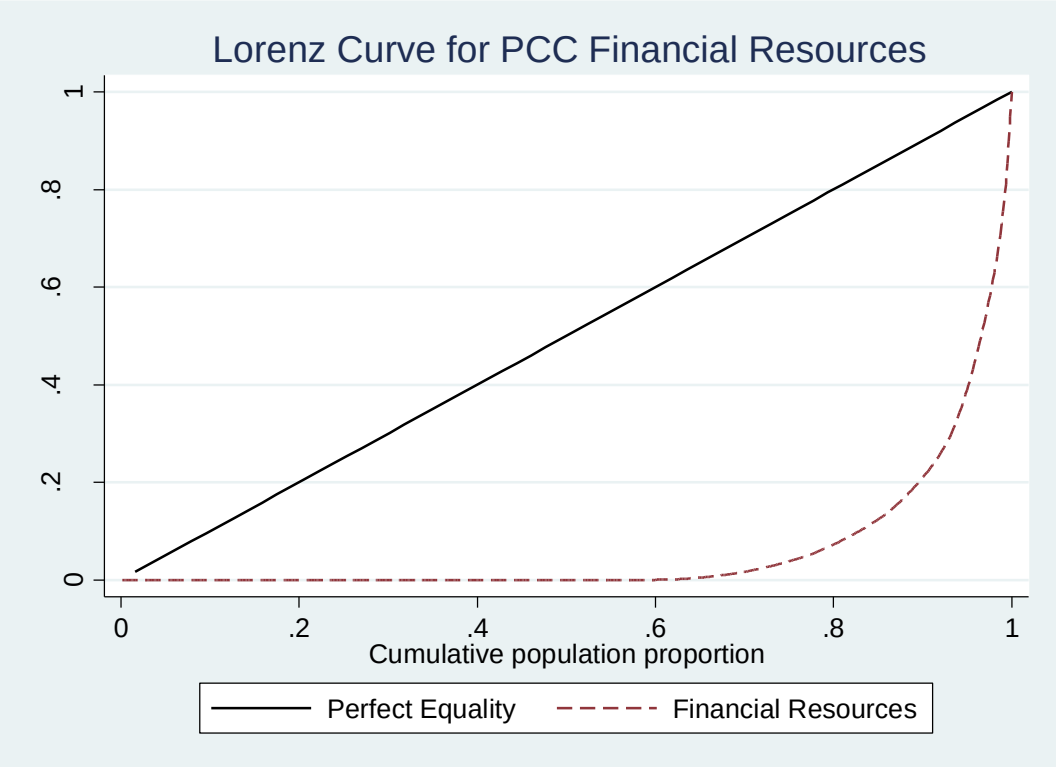
Using this measure, the average financial power of PCCs for which data are available during the 2012-2013 academic year was $750,908. This measure allows us to estimate the distribution of financial resources within the PCC sector. The Gini coefficient for financial inequality in the PCC sector is .69, which is higher than that for both the public and private university sectors.

**Table 12. Financial Power in PCC sector**

| Sector | Mean Financial Power | Gini | Freq. |
|---|---|---|---|
| PCC | 750,098 | 0.6937775 | 280 |

[97] Although I use the term 'average', this figure is not calculated in the traditional manner. I calculated this average tuition fee by averaging the minimum and max amounts which each institution charges for their programs. As such, it the middle point of the range as opposed to a true average.

**Figure 3.**



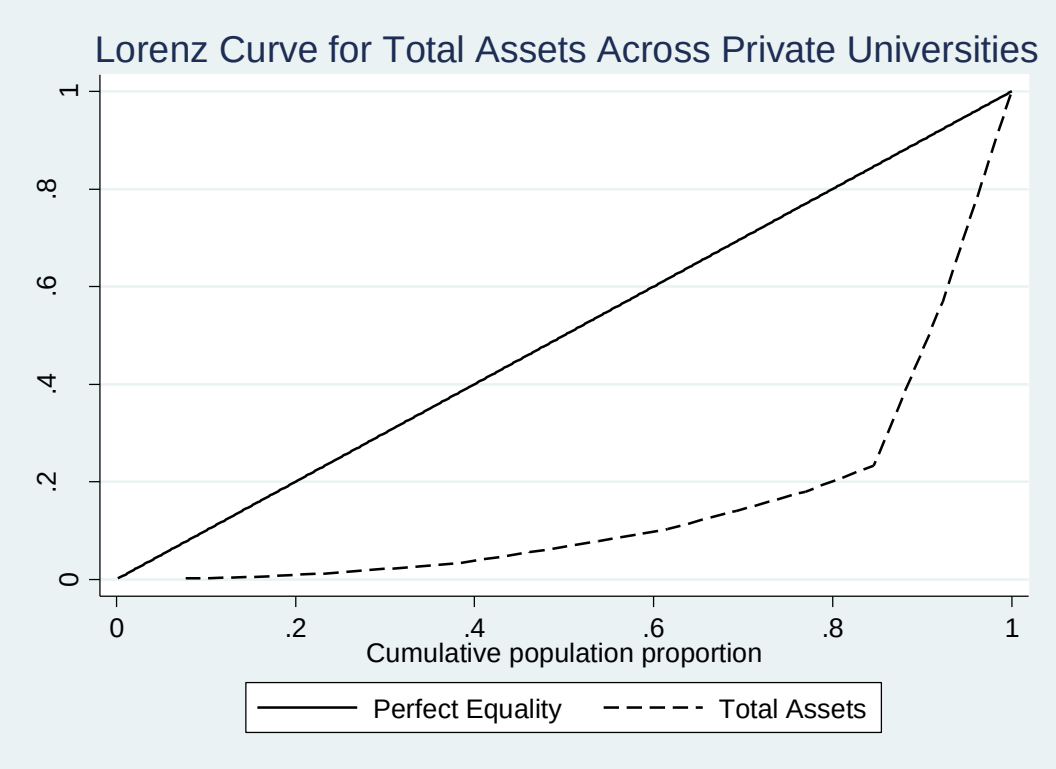

Among private universities, there are no data that will allow for the generation of a 'financial prowess' indicator. But, for most of the sector (13 of 17 private universities), there are figures for their total assets available through the federal government's registry of charities. These data allow one to estimate financial inequality within that sector. The Gini coefficient (.70) for this sector is almost identical to that for the PCC sector (.69), suggesting that generally higher level of financial inequality occurs in these private sectors.

**Table 13. Mean Financial Power in PRU sector-wide**

| Sector | Mean Financial Power | Gini Coef. | Freq. |
|---|---|---|---|
| Private U. | 9,411,379 | 0.7027085 | 13 |

Note: Missing data on four institutions.

**Figure 4.**



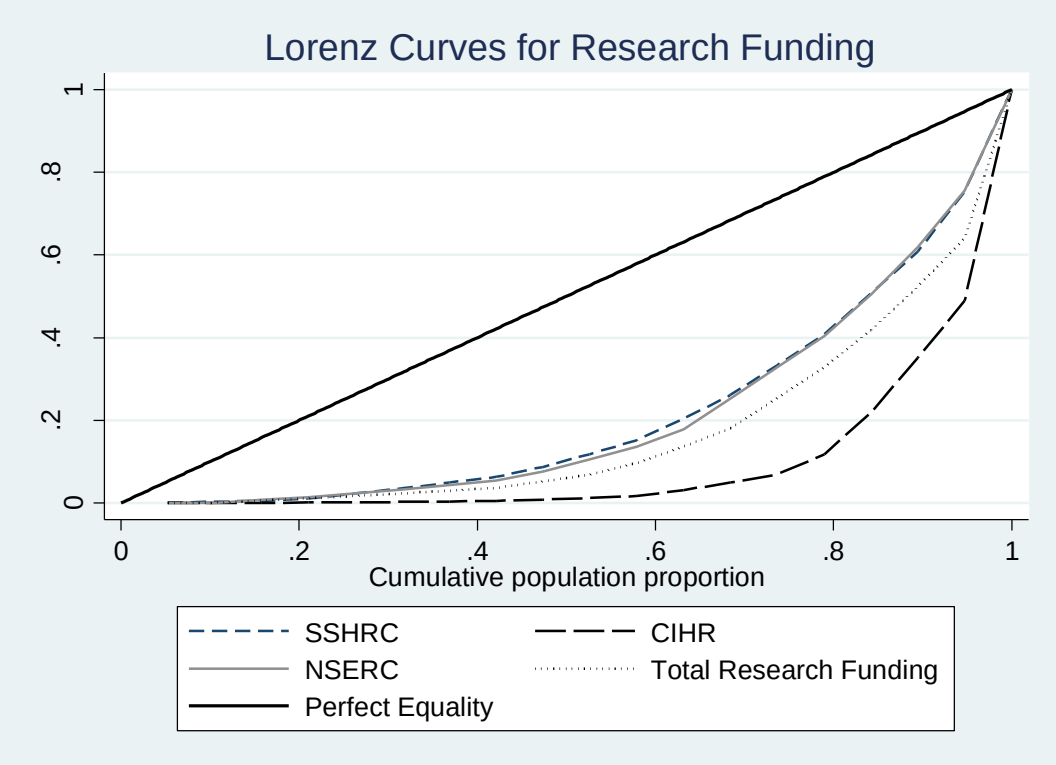

As with the PCCs, one can also generate alternate estimates of financial inequality within the public university sector. Using research funding acquired from SSHRC, CIHR and NSERC for instance (as listed on the COU website [2013-2014]), we see similar degrees of inequality for SSHRC (.56) and NSERC (.57), while substantially higher degree of inequality (.80) for CIHR. The latter difference is likely attributable to variations in the physical infrastructure or human capital required for medical research.

For instance, smaller public universities like Nipissing and OCAD received zero CIHR funding.

**Table 14. Research Funding**

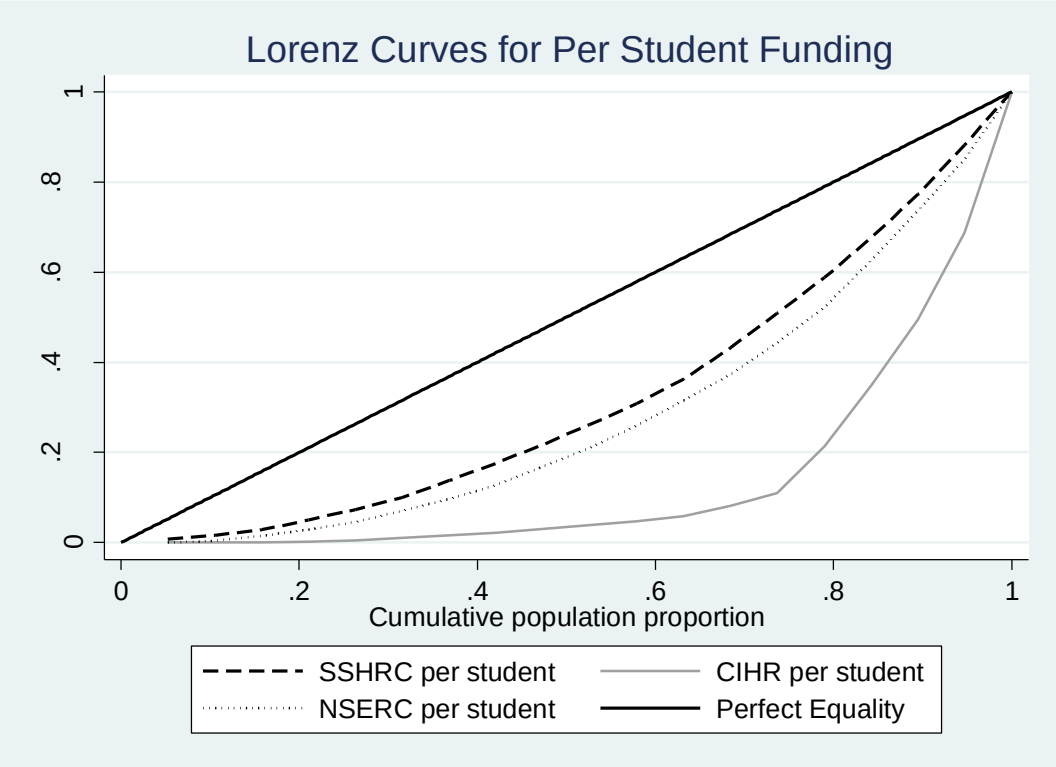
| Funding Type | Mean Funding | Gini[98] | Per student | Gini |
|---|---|---|---|---|
| SSHRC | 5,559,055 | 0.5657894 | 204 | 0.3580330 |
| NSERC | 15,800,151 | 0.5750903 | 611 | 0.4323224 |
| CIHR | 160,38,956 | 0.8023686 | 430 | 0.7196140 |
| Total Funding | 37,400,000 | 0.6501050 | 1244 | 0.4882315 |

**Figure 5.**




[98] These figures are likely conservative because COU does not make funding data available for Algoma, Dominican or the Royal Military College, which likely receive little to no funding from the tri-agencies.

**Figure 6.**




Are these observed differences in financial funding across Ontario PSE attributable to two main factors: organizational age and size? Among all public universities and colleges for which endowment, organizational age and size data is available, age and size account for roughly 70% of the observed variation in endowment. Older and larger organizations tend to possess larger stocks of financial resources, while, smaller and newer organizations tend to be relatively poor.

**Table 15. Endowment and Age/Size across two sectors of Ontario PSE**

| | **Model 1- Endowment (Age)** | **Model 2 – Endowment (Age and FT Enrolments)** |
|---|---|---|
| Age | 5178634.8***<br>(953027.1) | 2827908.6**<br>(796225.3) |
| FT Enrolments | | 16050.4***<br>(2722.6) |
| Constant | -214489659.6**<br>(78683992.5) | -284666522.6***<br>(58132156.7) |
| N | 39 | 39 |
| Adj. R-sq | 0.429 | 0.701 |

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Among public universities, age and size are also correlated with research funding received from SSHRC NSERC and CIHR. The only exception being NSERC funding, where age is statistically insignificant. Age and size account for 92% of the variation in SSHRC funding, 69% of the variation in CIHR funding and 66% of the variation in NSERC funding.

**Table 16. Research funding and Age/Size in public university sector**

| | **Model 1 - SSHRC** | **Model 2 – CIHR** | **Model 3 – NSERC** | **Model 4 – Total Funding** |
|---|---|---|---|---|
| Age | 16468.0<br>(9314.6) | 76489.4<br>(56376.9) | 185488.0<br>(105029.1) | 278445.4<br>(144737.8) |
| Total Enrolments | 396.4***<br>(31.00) | 922.8***<br>(187.6) | 1659.9***<br>(349.5) | 2979.1***<br>(481.6) |
| Proportion of Graduate Enrolments | 70899.1*<br>(30647.8) | 192646.8<br>(185495.9) | 647373.5<br>(345575.7) | 910919.5<br>(476228.4) |
| Constant | -5550923.1***<br>(1012724.9) | -14204281.2*<br>(6129521.4) | -48021026.2***<br>(11419190.9) | -7776231.6***<br>(15736477.2) |
| N | 19 | 19 | 19 | 19 |
| Adj. R-sq | 0.925 | 0.692 | 0.665 | 0.778 |

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

A similar relationship is observable within the PCC sector for 250 organizations for whom financial and age data is available. Using the alternative measure of financial resources (average tuition * enrolments), and since size is used to estimate financial resources, these models do not include organizational size. Across these 250 PCCS, age accounts for roughly 12% of the observed variation in financial resources.

**Table 17. Financial Power and Age in the PCC sector**

| | Model 1- Financial Power |
|---|---|
| Age | 27005.6***<br>(5.98) |
| Constant | -113293.0<br>(-.68) |
| N | 250 |
| Adj. R-sq | 0.123 |

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

## Organizational Status

Beyond financial resources, Ontario PSE organizations are also differentiated by their levels of prestige. This can be observed through both 1) public mechanisms (rankings) devised to measure this phenomena, as well 2) the less tangible reputations of each institution present in student folklore. In the absence of fine-tuned measures of prestige, these sources can tell us much about status-hierarchies in Ontario PSE. As research (Espeland & Sauder, 2007; Sauder & Lancaster, 2006; Sauder & Espeland, 2009) has shown, university rankings have become increasingly prominent over the decades. Some even contain measures that are purely reputational, taking into account assessments by educational experts. In addition, PSE administrators have become very sensitive to their institution's rank, often engaging in strategies to improve them. Rankings can thus communicate rudimentary images of how status-hierarchies are organized, though they possess limitations (see Chapter 3). In addition, one may question what student folklore

can teach us about the status-hierarchies. Yet, anthropologists have observed that the prestige of a social group is often dependent on the inability of external actors to informally denigrate or 'tarnish' them (see Campbell, 1964; Gluckman, 1963; 1968; Paine, 1967; Wilson, 1974). Hence, even the comedic caricatures of institutions devised by students are indicative of the structure of status-hierarchies.

With respects to both of the factors identified above, public universities seem to possess a near monopoly on prestige. Consider, for example, that they are the only institutional type included in global institutional rankings, such as those produced by *Times Higher Education* or *QS*. Neither of these publications have ever included any Ontario public colleges, private universities or PCCs (nor younger/lower status public universities). The absence of these institutions from said publications is indicative of the more local character of their reputation. This reality is hardly unique to Ontario. Few Ontarians would be familiar with technical institutes, community colleges (e.g. Erie Community College) or even low-status universities (e.g. Alfred University) in neighbouring jurisdictions like Michigan, New York or Manitoba. This lack of international repute contrasts world renowned institutions, such as Harvard and Oxford, which sit atop global rankings.

This inability on the part of most Ontario PSE institutions to develop more expansive reputations is not for a lack of interest. There are several signs that public colleges, for example, want to be ranked. Mohawk College, for example, consistently advertises that it is the '#1' college in the Greater Toronto-Hamilton Area on local billboards and its website. Georgian College has also been complicit in advertising its

relative standing within the public college sector, highlighting its placement in an obscure international ranking[99]. These examples are part of a gradual movement within this sector towards translating Key Performance Indicators (KPI) published by the MTCU into unofficial 'ranks'. St. Lawrence[100], Niagara[101] and Cambrian[102] are all recent adopters of this strategy. There has also been a recent effort by Re$earch Infosource to develop a ranking of "research colleges" in Canada. Yet, the systematic ranking of public colleges in Ontario has not gained much traction to date. Institutional rankings in Ontario, as well as Canadian PSE as a whole, remain the domain of public universities.

There are additional forces, beyond rankings, that shape reputational dynamics across Ontario PSE. This is particularly true with respects to PCCs, whose reputation has suffered greatly since the publication of an Ombudsman's report (Marin, 2009) documenting the infamous and now defunct Bestech Academy. That PCC was found to engage in predatory practises that defrauded students and the provincial government for years. The report generated a wave of public concern with the sector that led to a series of explosive undercover investigations by the *Toronto Star* in 2009 and 2014, and an investigation by the Auditor General of Ontario. Regular law-abiding PCCs actively struggle to distinguish themselves from the stigma that has been placed on this sector since the Ombudsman report.

[99] See http://www.georgiancollege.ca/news/news-releases/georgian-college-is-top-ontario-college-in-international-student-satisfaction-survey/
[100] See http://www.stlawrencecollege.ca/news/2014/enrolment/
[101] See http://www.niagaracollege.ca/content/CorporateInformation/AboutNiagaraCollege.aspx
[102] See http://www.cambriancollege.ca/NewsEvents/Lists/News%20Features%20%20Media%20Releases/Display.aspx?List=50addb35-da99-4807-8549-138769f0fd0d&ID=982

Public colleges have not experienced anything equivalent to a damaging Ombudsman's report. However, as with other forms of vocational or technical institutions, they have been traditionally characterized as a cheap imitation of 'real' PSE, sometimes perceived as a 'last resort' for those not accepted into a public university (see Clark, 1960; Brint & Karabel, 1991). Students at public colleges tend to be characterized as less academically gifted by university counterparts. Mohawk College, for example, has been attributed the moniker '*Slow*hawk' (Hamilton Spectator, 2014). Popular jokes among university students also poke fun at the supposed lack of academic rigour of less reputable institutions. For example, one joke states: "if you can walk and talk, you can go to Brock". Another suggests that "it takes 5 Brock students to change a light bulb, one to change the bulb and four to throw a party after the successful installation." There are no comparable jokes about the intelligence of Toronto or Queen's students.

The discussion above should not be misconstrued to imply that public universities are characterized by 'status homophily' (McPherson & Smith-Lovin, 2001), sharing similar levels of prestige. There is a standard *cachet* attached to the 'university' moniker, yet the public university sector also has a high degree of within sector differentiation. Smaller and younger universities (Nipissing, Laurentian, etc.) are excluded from global rankings, while, older and large public universities in Ontario are present in international ranks, and sit atop the upper echelons of national rankings, as demonstrated by the *Maclean's* medical-doctoral and comprehensive categories over 2009-2013.

In the *Maclean's* rankings, Toronto, Queen's and their other national counterparts, such as McGill, UBC and Alberta, dominate the top positions within the 'Medical-

Doctoral' category. Waterloo and Guelph regularly round out the 'top 5' universities within the 'Comprehensive' category, which includes Victoria, Simon Fraser and New Brunswick. This consistency is evidenced by the small standard deviation values of each of the 'top 5' schools within each category listed below, the largest of which is New Brunswick's (1.09). This same degree of status consistency tends to characterize the bottom rungs of each of the *Maclean's* categories. While Toronto and Queen's dominate the top of the 'Medical-Doctoral' group, others such as Manitoba and Sherbrooke take turns being last. In the 'Comprehensive' category, while Waterloo is a perennial threat to break into a leadership position, Brock, UQAM and Concordia regularly round out the lowest ranked positions.

**Table 18. 'Top' Medical-Doctoral School Rankings (2009-13)**

| **Schools** | **2013** | **2012** | **2011** | **2010** | **2009** | **Avg. Rank** | **St. Dev.** |
|---|---|---|---|---|---|---|---|
| McGill | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| Toronto | 3 | 3 | 2 | 2 | 2 | 2.4 | .548 |
| UBC | 2 | 2 | 3 | 3 | 4 | 2.8 | .8366 |
| Alberta | 5 | 5 | 5 | 4 | 5 | 4.8 | .447 |
| Queen's | 4 | 4 | 4 | 5 | 3 | 4 | .707 |

**Table 19. 'Top' Comprehensive School Rankings (2009-13)**

| **Schools** | **2013** | **2012** | **2011** | **2010** | **2009** | **Avg. Rank** | **St. Dev.** |
|---|---|---|---|---|---|---|---|
| Victoria | 1 | 2 | 2 | 2 | 2 | 1.8 | .44 |
| S. Fraser | 2 | 1 | 1 | 1 | 1 | 1.2 | .447 |
| Waterloo | 3 | 3 | 3 | 3 | 3 | 3 | 0 |
| Brunswick | 4 | 4 | 6 | 6 | 6 | 5.2 | 1.09 |
| Guelph | 5 | 5 | 4 | 4 | 4 | 4.4 | .547 |

| **Table 20. 'Bottom' Medical-Doctoral School Rankings (2009-13)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Schools** | **2013** | **2012** | **2011** | **2010** | **2009** | **Avg. Rank** | **St. Dev.** |
| Ottawa | 8 | 10 | 10 | 11 | 9 | 9.6 | 1.14 |
| Laval | 13 | 13 | 12 | 12 | 12 | 12.4 | .547 |
| Montreal | 11 | 12 | 12 | 13 | 13 | 12.2 | .836 |
| Sherbrooke | 15 | 14 | 14 | 14 | 13 | 14 | .707 |
| Manitoba | 14 | 15 | 15 | 15 | 15 | 14.8 | .447 |

| **Table 21. 'Bottom' Comprehensive Rankings (2009-2013)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Schools** | **2013** | **2012** | **2011** | **2010** | **2009** | **Avg. Rank** | **St. Dev.** |
| York | 8 | 9 | 10 | 9 | 9 | 9 | .707 |
| Windsor | 10 | 10 | 8 | 7 | 8 | 8.6 | 1.34 |
| Concordia | 13 | 13 | 12 | 11 | 11 | 12 | 1 |
| UQAM | 14 | 14 | 13 | 12 | N/A | 13.25 | .957 |
| Brock | 15 | 15 | 15 | N/A | N/A | 15 | 0 |

The status-hierarchy within the Ontario public university sector conforms with empirical trends in other jurisdictions, such as the U.S., where researchers (Espeland & Sauder, 2007; Sauder & Espeland, 2009; Sauder & Lancaster, 2006) have long documented even more stratification (Davies & Zarifa, 2012) and stability of ranks. For instance, Gnolek, Facliano & Kuncl, 2014 have noted the incredible difficulty of institutional upward social mobility without expending substantial financial resources. Canadian students may place less emphasis on rankings when choosing an institution (see Drewes & Michael, 2006; Kong & Veall, 2005) in comparison to their choice of field of study (Davies & Hammack, 2005), but status inequality between public universities appears to be visible and quite durable in Ontario.

*Summary*

Overall, the evidence discussed above suggests a stable and stratified institutional hierarchy. Between sectors, public universities hold a very privileged position, dominating the attention of media outlets and their rankings. Public colleges suffer from a particular stigma, one that appears to be linked to the applied nature of their programming. Prestige appears tied to high-level academics and fields connected to high-status professions (medicine, law, engineering, etc.). Meanwhile institutions specializing in vocational programming and non-professional occupation suffer from such low-status affiliations. The PCC sector, in particular, also possesses a tarnished reputation, one that has been shaped by recent critical government reports and media investigations. Within said context, only a select group of elite public universities have been able to develop an extra local reputation.

## Conclusion

A variety of secondary sources and publicly available data suggest that PSE organizations in Ontario are stratified in several ways. First, they are stratified by the *types of students* which flow into them. At one extreme, there are disadvantaged PCC students, at the other are relatively privileged university students. Within the public university sector, there is also considerable differentiation, with Queen's hosting a relatively wealthier group of students. With respects to *student outcomes*, PCCs produce the worst economic outcomes while public universities produce the best. This pattern is further solidified by examining *organizational resources.* Across sectors, public universities reign supreme, followed sequentially by public colleges, private universities

and career colleges. The same general pattern holds true for *organizational prestige*. Public universities have the strongest reputations, being the only organizational types capable of acquiring international attention.

| **Table 22. Concept Map** | | | | |
|---|---|---|---|---|
| | **Student** | | **Organizational** | |
| Sector | **Flows** | **Outcomes** | **Resources** | **Status** |
| **Public Uni.** | Traditional (Affluent, Young) | Best | High | Prestigious |
| **Public Col.** | Less Traditional (Poorer, Older) | Average | Medium | Local Reputation |
| **Private Uni.** | Unclear, likely approaching traditional. | Unclear, likely similar to public. | Low to Medium | Denomination-specific |
| **PCC** | Marginalized | Worst | Low | Poor |

This fuller image of stratification in the Ontario PSE system is not reflected in existing research. Most existing work tends to focus exclusively on universities (Brint et al, 2006; Mullen, 2010; Davies & Hammack, 2005; Davies & Zarifa, 2012; Davies & Pizarro, forthcoming). Beyond Ontario, some older university/college comparisons exist in the US (Brint & Karabel, 1991). This chapter contributes a unique examination of both *between* and *within* sector stratification. Having now described the basic contours of this system-wide stratification, in the following chapters examine various organizational mechanisms and outcomes of these stratified structures, showing how (1) organizational environments, (2) networks and (3) organizational symbols both reproduce and reflect this stratification.

# Chapter 6

## Stratified Connections

A primary manifestation of institutional stratification, one that is especially visible between sectors of Ontario PSE, pertains to the different ways in which institutions interact with their immediate surroundings. Clark (1983) once noted that PSE institutions have "autonomies not to be imagined in elementary schooling or modern secondary education. They are freer of the family, community, and church, and, for the most part, of local public officials and lay control" (p. 3). I posit a more refined version of this statement. High-status PSE institutions, mainly public research universities, appear to be relative 'detached' from the exigencies of their locales, and are often more preoccupied with conforming to global normative standards. Meanwhile, lower-status institutions, including public colleges and PCCs, appear to be continuously engaged in efforts to better align internal structures and practises with dynamic students demands and the ever changing structure of labour markets. I term these differential interactions within PSE as *stratified connections* and expose this concept to empirical examination throughout the proceeding sections of this chapter.

### *A Theoretical Refresher*

The interactions of PSE institutions with surrounding communities have long captivated the imaginations of both policymakers (MTCU, 1996; 2013) and sociologists (Arum, 2000; Meyer & Rowan, 1977; 1978). The interest of the former has been motivated by a desire to design policy frameworks that will entice educational organizations to meet the dynamic needs of regional labour markets. Meanwhile, the

interest of the latter has been more abstract, consisting of a desire to chart the conditions that will trigger 'loose' or 'tight' coupling (Weick, 1976; Coburn, 2004). Two contrasting theoretical perspectives within the sociologies of education and organizations have emerged to tackle this issue: New Institutionalism (NI) and Population Ecology (PE) (see Arum [2000] for a review). Traditional NI (DiMaggio & Powell, 1983; 1991; Meyer & Rowan, 1977; Meyer, 1994; Frank & Meyer, 2007) defined organizations as rigid, unresponsive to local exigencies and prone to mimicking the characteristics of successful peers. More recent thinking within the tradition acknowledges the complexity of organizational fields (Quirke, 2009; 2013), and the potential for organizations to engage in strategic action (Oliver, 1991; 1992), selectively capitalizing on opportunities offered by their surroundings while attempting to remain legitimate (Davies & Pizarro Milian, forthcoming). PE (Hannan & Freeman, 1977) on the other hand, depicts organizational populations and the forms of those within them as more directly mirroring the characteristics (resources/competition) of the fields they inhabit[103]. This, of course, occurring due to environmental selection effects rather than strategic adaptation. The two hypotheses that emerge from these perspectives with regards to the types of interactions that exist between PSE institutions and their surrounding environments are as follows (see theory chapter for lengthier discussion):

> **H1:** Public universities will respond strategically to their environments, protecting their core, while at the same time, exploiting lucrative opportunities.
>
> **H2:** The characteristics (area of program specialization) of PCCs will be tightly coupled with their surrounding technical environments.

[103] See Arum (2000) for an overview of how sociologists have conceived school-community ties over the years.

The analyses presented in this chapter provide a fuller context in which to situate the student flows described in the previous chapter. Privileged students can be seen as migrating not only to higher credential tiers (Raferty & Hout, 1993) or more prestigious institutions (Lucas, 2001) but, in addition, to areas of this organizational field which are essentially insulated from the vagaries of technical environments. Thus, the public university sector, at the apex of the Ontario PSE system, may play the role of what Stevens, Armstrong & Arum (2008) term as an "incubator", a space where academic activities are only loosely connected with social demands of their immediate settings. Meanwhile, PCCs conform most closely to the hypotheses of technical or market perspectives.

### *Analytical Strategy*

My analysis of the relationships between PSE organizations and their environments is structured around an exploration of hypotheses derived from the theoretical perspectives discussed above using a series of empirical data that I have assembled, including phone interviews, school websites, Statistics Canada data and institutional documents from a variety of entities. Although labour-intensive, this eclectic approach allows me to triangulate and more effectively map stratified connections across Ontario PSE. I leave it to future research to develop better data sources on this topic.

## Local Market and Organizational Population Size

How do PSE organizations relate to their surrounding environments? The PE tradition (Hannan & Freeman, 1977) posits that 'market size' should largely dictate the

number of organizations ("carrying capacity") that can survive within a geographical region[104]. Large cities (Toronto, Ottawa, etc.), with many consumers, and thus, abundant financial resources, should be able to support large organizational populations. On the hand, smaller towns should be limited in their ability to support more than a handful of PSE organizations. This logic should hold true for PCCs, in particular, for two distinct reasons. First, they receive no government funding and rely exclusively on the market (student tuition) for their survival. Secondly, they are generally low-status, and thus, lack the allure to pull customers to them from great distances, as high-status universities like Harvard or Yale do. So, if one examined the relationship between market size, measured as the number of inhabitants within a region, and its total number of PCCs[105], one would expect to find a positive, statistically significant relationship. Moreover, one would expect that market size should be a better predictor of the presence of PCCs than public universities, given that the latter can rely on direct government funding and endowments, as well as their power to attract students towards them.

[104] In this chapter I abstain from a detailed theoretical discussion of new institutionalism and population ecology, since they were discussed at length in the theory chapter.
[105] Depending on where the PCC was located I used population data at the census division, census subdivision and population centre levels. See methodology chapter for further details on this.

| **Table 23. Poisson Regression[106] – Number of Organizations over Market Size** | | | | |
|---|---|---|---|---|
| | (1) PCCs | (2) PRUs | (3) Public Universities | (4) Public Colleges |
| Population Size | 1.52e-06*** (45.61) | 8.89e-07*** (4.38) | 5.08e-07* (2.30) | 2.20e-07* (2.43) |
| Constant | 1.488006*** (26.98) | -.0155623 (-.0156) | 0.120 (0.45) | .0124 (0.05) |
| N | 70 | 7 | 15 | 18 |
| Pseudo R-squared | .6962 | 0.5220 | .1044 | .1029 |
| Note: *t* statistic in parentheses | | | | |

As seen above in Table 1, regressing the total number of PCCs within each geographical region (town/municipality, etc.) on market size reveals a positive, statistically significant relationship. Across the 70 geographical areas in which PCCs are present in Ontario, market size accounts for approximately 70% of the variation in the total number of PCCs present. When I run the same model for public universities across the 15 regions in which they are found, market size accounts for only 10% of the variation. These findings support the basic notion, discussed in Chapter 3, that PCCs are far more sensitive to their local surroundings than public universities. Coincidentally, in similar Poisson regression for private religious universities (PRU) and public colleges, market size is a better predictor of the presence of the former (explaining 52% of the variation) than the latter (10%). This supports the idea that private PSE organizations in Ontario tend to be more sensitive to local environmental conditions than are their public counterparts.

[106] I use Poisson as opposed to OLS regression because I am dealing with counts, as explained in Chapter 4.

### *More on 'Site Selection' within the Public University Sector*

The findings presented above should not be misconstrued to suggest that public universities in Ontario are completely insensitive to their local surroundings. Instead, using the notion of "core-isomorphism / peripheral risk-taking" (Davies & Pizarro Milian, forthcoming), I reason that public universities respond to their surroundings in *selective* and *strategic* ways. Official documents from universities (McMaster University, 2002; 2008; 2014; Waterloo University, 2009; Western University, 2007; Wilfrid Laurier, 2010; Queen's, n.d; UOIT, n.d; University of Toronto, 2014) can shed some light on this logic. Importantly, these institutions were originally founded in physical locations not to be spatially proximate to large markets, but to instead have space to eventually grow unfettered[107].

Many public universities in Ontario were originally established in scarcely populated residential or rural areas. McMaster University, for example, moved its campus to the suburbs of Hamilton during the earlier part of the 1900s when it began to outgrow its facilities in Toronto (McMaster University, 2014). A preoccupation with physical growth continues to be a prominent theme in documents produced by McMaster (McMaster University, 2002; 2008) which have projected physical expansion until 2032! Official documents from Western University (2007) also recall that the 1922 move to its present campus was motivated by the desire to physically expand. This preoccupation with growth continues to this day at Western, as seen through aggressive land acquisition strategy and plans to add "an average of 130,000 meters per decade" to its campus (Western University, 2015, p. 9).

[107] This logic reflects the establishment of land-grant colleges in the United States.

McMaster and Western are far from unique with respect to long-term physical planning. Waterloo (2009), for example, has developed a campus master plan to more efficiently use its 1,000 acres to "support the academic mission of the university, maintain and enhance the quality of the campus, ensure strong community development and achieve sustainability" (Waterloo University, 2009, p. 13)[108]. Similar plans for physical expansion are highlighted in the official documents of nearly all other public universities in Ontario[109].

However, some Ontario public universities, including Ryerson, Toronto and York, are currently located in the midst of major urban centres. The reason is that public universities, like other large organizations, strongly influence their local surroundings over time (Sudmant, 2009; Ohme, n.d; Steinhacker, 2005). The University of Toronto, for example, when founded in 1829, was set within "150 acres of vacant forest land" (University of Toronto, 2014). But over time, universities often fuel local socioeconomic growth, even in sparsely populated areas. A study (Ohme, n.d) at the University of Delaware found that local businesses employed a significant number of university students and alumni, and that students and staff were "frequent customers and loyal patrons" of local business (Ohme, n.d, p. 7). Universities play substantial roles in local economies by providing both human capital and customers for local businesses. As a result, while public universities often originate in sparse settings, many end up being crowded out by their surrounding community over the ensuing decades.

[108] Waterloo's recent expansion projects include an $88 million engineering building (Waterloo, 2014a) and a $140 million Science Complex (Waterloo, 2014b).
[109] See Queen's (n.d), Wilfrid Laurier (2010) and UOIT (n.d) for examples. A Google search of the phrase "future expansion of the campus" reveals over a million results, indicating that the topic is important beyond Ontario.

### *Site Selection in PCC Sector*

As with public universities, the observed preferences of PCCs can also be contextualized further. Both interview and advertising data can shed light on their choice of more densely populated areas. PCC administrators strive to provide maximum convenience for customers, while remaining within a limited price-range that meet their budget. As several administrators explained during interviews:

> Around 98', when we started out, we were pretty much looking for *a place that was convenient for our customers, somewhere they could get to easily*. This location was pretty good, it was right next to a couple of bus routes. There was parking across the street, although that's now gone. *It also matched our budget.* We couldn't afford to go buy something. That's something we would like to do in the future, hopefully in time as we grow we can find our own place. (Toronto Generalist PCC, *my emphasis*)

> To be honest, *it was what we could afford at the time*. We would have liked to be a little closer to the Lakeshore area, but it was way out of our price range. We worked our way progressively north; looked at some places near Cabbagetown, another one by UofT near Bloor. But we settled here. *We are not too far off the grid. Rosedale Station is just a 5 minute walk*. If you avoid rush hour, you can hop on the DVP really quickly if you cut across Bloor. (Toronto Beauty PCC)

The allure of being located in densely populated areas was also clearly articulated when I asked about the 'perks' of current locations. As one administrator expressed:

> Well, I think it's a good spot. We are right on one of the main arteries of this part of Kitchener. We are five minutes away from an access to Hwy 8, and then from there it's only a short 15/20 minute drive to Cambridge or Waterloo. I'd like to say we are right at the border of the biggest populations you will find around here. So, that's a big plus. (Kitchener Generalist PCC)

The advertisements presented on PCC websites are also indicative of the type of logic that likely guides geographical site selection. The Academy of Locksmithing Inc. (Toronto), for example, states that their campus is "conveniently located on Midland

Avenue near the 401 (Kennedy Road interchange) ... with public transportation stopping within a short walk of the facilities". The Academy of Learning also boasts that their campus is “conveniently accessible by TTC, VIVA, Mississauga Transit and Brampton Transit”. At the time of writing, similar rhetoric pertaining to the importance of convenience could also be found on the websites of a variety of other PCCs[110]. This logic, of course, stands opposite to that of public universities, especially the most elite of them which often pull students across the country. Choosing a location can thus be seen to be partly a function of status.

### *What about public colleges and PRUs?*

Do public colleges and PRUs sit somewhere between public universities and PCCs in terms of their resource dependency? PRUs exist within a competitive quasi-market environment, acquiring no steady funding from the government, and thus relying mainly on student tuition, like PCCs. Yet, their links to religious parent groups shelter them from pure market forces. Public colleges receive government funding, like public universities, yet as government creations their ambitions are strictly regulated by their prescribed role within the system, which as discussed in the history chapter, is largely limited to specialized vocational training. Hence, they are strongly encouraged to cater to local labour market demands. Examining the geographical locations of these two organizational types provides a further glimpse into stratified connections.

[110] The Canadian College of Business (“3 convenient locations to choose from”), Everest (“14 convenient locations in Ontario”), Liason (“Choose from one of many convenient locations across Ontario”), Evergreen (“Evergreen College understands the importance of convenient access, so we are opening new campuses to service our customers no matter where they are”), Trillium (“9 campuses across Ontario for your convenience!”), Progressive Training (“is conveniently located in Muskoka, the heart of Ontario's cottage country”) , Trios (“9 convenient locations across Ontario”) and Transitions College (“Our convenient campus is located at”), just to name a few

The geographical locations of public colleges shows an affinity with younger public universities in northern areas of Ontario. Both organizational types have implicit 'catchment' areas that tend to overlap with each other. Confederation, Northern, Cambrian, Sault, Boreal and Canadore roughly cover the same northern regions as Algoma, Lakehead, Laurentian and Nipissing. Their overlap reflects, as discussed within the history chapter, how both groups were ushered into the system during the mid-20th century by a provincial government aiming to provide more equitable access to PSE across Ontario. This aim shapes the location of public colleges; otherwise, it is difficult to explain why Confederation College was established in Thunder Bay (~108,000 inhabitants), Northern College in Timmins (~43,000), Sault College in Sault Ste. Marie (~75,000) and Cambrian in Sudbury (~106,000) over others, like Brampton (~523,000) or Burlington (~175,000). The relationship between public colleges and their environment was thus mediated by the provincial government.

PRUs provide evidence of yet another pattern. Some resemble public universities with respect to their chosen location, preferring areas that allow room for growth. Redeemer University serves as an ideal example of this logic, being nestled at the outskirts of Ancaster. This organization was surrounded by farmland until housing developments quickly crowded its northern border. Tyndale University is also a prime example. In 2012, it agreed to sell its current landlocked campus in order to move 15 minutes away into a new facility that reports state “will allow Tyndale with ample opportunity for growth” (Tyndale University, 2012). There are also multiple examples of PSE organizations being nestled in quiet residential areas, such as Emanuel College,

Master's College and Seminary as well as the Canadian Reformed Theological Seminary, which correspond to the traditional bible college form – a place for quiet worship and spiritual development. The rest of the sector tends to indiscriminately mirror the location of their religious parent, bringing them into commercial (Heritage Baptist College, Canadian Christian College), residential (Great Lakes Bible College) as well as urban areas (Toronto Baptist Seminary). This strategy likely allows organizations to reduce rent costs by 'piggybacking' on their religious parent's physical facilities. It also places them proximate to their potential customers (i.e. individuals from their religious denomination). These parasitic strategies are made explicit at times. The Canadian Reformed Theological Seminary, for example, states on their website that a main factor in its decision to choose a location was the presence of a university library nearby.

### *Summary*

A simple statistical examination of the relationship between market size and the presence of different types of PSE organizations shows that market size is a better predictor of the presence of PCCs than the other organizational types. This suggests that PCCs more closely reflect their immediate surroundings, consistent with population ecology theory (Hannan & Freeman, 1977). Qualitative data drawn from interviews, official institutional documents and web pages provide a more detailed picture of how site selection is guided by contrasting logics. Older public universities are often founded away from urban centres; sites for newer public colleges and universities, particularly in the north, were often selected according to the government aim of widening geographic access to PSE.

## An Analysis of Three Ontario Regions

The previous section revealed a variety of logics by which PSE organizations relate to their immediate surroundings. In this section, I analyze the correspondence between (1) internal organizational structures and (2) local environments across three geographical regions in southern Ontario: Hamilton, London and Mississauga[111]. I begin by describing economic profiles for each region using documents from municipal governments, Chambers of Commerce, news media and Statistics Canada in order to develop a basic qualitative[112] understanding of the local environments in which PSE organizations are immersed. I then examine the internal structures of public universities and PCCs in each region, using their websites and official documents, and assess their level of correspondence. I strategically focus on these two particular sectors given that they constitute 'polar' opposites on the institutional-technical environmental continuum. As such, their comparison should prove an 'economic' method of highlighting the stratified connections that exist within Ontario PSE.

### *Profile 1: Mississauga*

Mississauga is a relatively modern city located on the western edge of Toronto, Ontario. It boasts a population of approximately 700,000 individuals, with a large and diverse immigrant community (City of Mississauga, 2014). Its downtown area, located proximate to the intersection of Hurontario Street and Hwy 403, is site to an impressive and increasingly crowded skyline. Many major construction projects can be observed

[111] My selection of these three regions was based on two factors: 1) availability of official documents and other sources to construct an economic profile; 2) having particular strength in certain industries, without being overly large (such as Toronto and Ottawa) so that virtually any type of PSE institution could link to its local economy.

[112] This compliments my quantitative conceptualization of local environments earlier in this chapter.

throughout the downtown core (Statistics Canada, 2014a; 2014b; 2015), including lush apartment buildings and a new 'GO' train station. Mississauga is home to a relatively modern economy, with strengths in a broad group of industrial sectors. A review of contemporary sources (City of Mississauga, 2006; 2010; 2011; 2012; 2012a; 2013; n.d; Ministry of Research & Innovation, 2012; Statistics Canada, 2011) suggests that the City has achieved relative prominence in both (1) manufacturing and (2) pharmaceuticals.

The manufacturing sector in Mississauga employs between 8 to 11% of all local working residents (City of Mississauga, 2012a; Statistics Canada, 2011)[113]. It contains two particular vibrant clusters: (1) automobile and (2) aerospace manufacturing (City of Mississauga, 2010). Although not normally perceived as a major player in automobile production, akin to Detroit or Windsor, recent figures place Mississauga's automobile manufacturing as the second largest within the province, with close to 500 businesses, 17,000 employees and a contribution of $1.26 billion to the local economy (City of Mississauga, 2006, p. 19). The aerospace cluster is composed of a smaller group of companies (~200), but actually employs a larger (~22,000) group of individuals (City of Mississauga, 2006, p. 21). It includes giants such as Pratt and Whitney, a producer of aircraft engines that has recently unveiled plans to "invest more than $1-billion in research... to develop the next generation of high-performance aircraft engines" (Batti, 2015). It also includes a diverse group of smaller start-ups that showcase their latest wares at the City's annual 'Advanced Manufacturing Expo'.

[113] Among these there are 2,125 'manufacturing managers', 690 'industrial and manufacturing engineers', 715 "industrial engineering and manufacturing technologists and technicians', 540 'supervisors' of different sorts, 400 'assemblers and inspectors', and 105 'machine operators and inspectors', among other occupational groups (Statistics Canada, 2011b)

The pharmaceuticals sector is also a main part of the local economy, and the third largest of its kind in the country (City of Mississauga, 2010). Firms within it have clustered together geographically, forming what is now referred to as 'Pill Hill' (Panjwani, 2008; City of Mississauga, n.d; Webb, 2004) near the intersection of Mississauga and Derry road. Recent estimates place its size at ~400 companies, with 25,000 employees (City of Mississauga, 2015; n.d). This organizational population includes multi-nationals like GlaxoSmithKline, an entity that makes about half the world's ointments and anti-virals (MRI, 2012). Beyond such giants, Mississauga's pharmaceutical sector is also home to a diverse group of recent entrants to the regional market, such as Almirall[114] (City of Mississauga, 2012), as well as smaller entities, such as Chemi, Septa and Cipher Pharmaceuticals.

### *Peripheral Risk-Taking at UTM*

At the time of writing, the University of Toronto – Mississauga (UTM), the only public university in the city, was capitalizing on several opportunities afforded by its local economy. It did so through tailored (1) degree programs and (2) internal structures. UTM did the former by developing several programs via direct consultation with pharmaceutical firms (see MRI, 2012). As a senior administrator at the institution explains, the school asked itself: "rather than presume what a masters of management in life sciences should be like, why not work with the big pharmaceutical companies headquartered out here to build the program"? (MRI, 2012). UTM employed a similar approach for undergraduate programs in pharmaceutical sciences and graduate programs

[114]Almirall is an international pharmaceutical company based out of Barcelona, Spain. Its Canadian branches focus on dermatology and respiratory medical products.

in biotechnology (Webb, 2014). Such catering has allowed it to secure vast financial resources. By 2002, for example, GlaxoSmithKline had donated approximately $700,000 to support laboratories and curriculum planning within the Masters of Biotechnology Program (GlaxoSmithKline, 2002).

These initiatives have made UTM graduates very appealing to industry. Some recent graduating classes are reported to have achieved perfect placement rates (Webb, 2014). This trend has been supported by tailored programs. Through them, local firms have been able to inculcate firm-specific human capital (Hashimoto, 1981) to future employees at a low cost. They have also been able to evaluate worker productivity absent of commitments to long-term employment[115]. These structures have thus created a 'pipeline' between UTM programs and the local pharmaceutical industry, one that resembles ideal-typical examples, such as those existing between Stanford and Google. At the time of writing, for example, senior administrators at UTM suggest that GlaxoSmithKline was the "single largest recruiter of bio tech students" from the university (MRI, 2012)[116]. Recent UTM (2008; n.d.[a]; n.d.[b]; n.d.[c]; n.d.[d], n.d.[e])

[115] As one alum testimonial notes, "I started as a co-op student at GlaxoSmithKline and was offered a contract position by the company before I graduated. I think I was hired because the company had been able to see my work for 10 months. I had proven to them that I was an asset to the company.. I found that the co-op portion of the Master of Biotechnology program enabled me to get a foot in the door" (UTM, 2008).

[116] UTM (n.d.) promotional material contains a testimonial by Kevin Fehr, Director of Research & Development Alliances at GlaxoSmithKline, suggests that "GSK is an enthusiastic supporter of the M. Biotech co-op program. Since the inception of the program we have hosted over 40 students, and have hired many of the graduates.... The students I have mentored in our department have made a significant contribution to GSK's Medical Genetics studies. They have managed genetics collections studies, almost independently by the ends of their terms. We would not have been able to complete this work without them. I now have two M. Biotech grads as employees in my department; they had absolutely no difficulty transitioning to their new status, and are now fully contributing department members" (p. 2). Another testimonial in the same document, from the Director of Trial Delivery Oncology/ Infection at AztraCeneca, suggests that the company "is an enthusiastic, long-time supporter of the Master of Biotech Co-op Program sponsoring the Master of Biotech Chair, the AstraZeneca seminar series, and a student scholarship each

promotional materials, replete with examples of alumni that have acquired employment at local pharmaceuticals, make it appear as if the transition between these two has become institutionalized. This logic that extends to the highest credential levels, with UTM recently instituting a Certificate in Professional Development designed for science Ph.Ds "thinking of pursuing a role outside of academia" (UTM, 2014)[117].

Beyond tailoring programs to meet the needs of local pharmaceuticals, UTM has also developed concrete links to the sector by establishing the Centre for Applied Biosciences and Biotechnology, which houses a "nuclear magnetic resonance suite, high-tech labs with instruments for gene screening and sequencing, and advanced imaging technologies" (Webb, 2014). This centre, the first major investment of UTM's Biotechnology Convergence Centre, aims to bring together actors from government, local industry and academia in order to support research that explores genomes, healthy workplaces and cities, and technologies to "accelerate drug discovery" (Webb, 2014).

How are these types of organizational links either risky or lucrative? Neither answer is obvious. On the one hand, these links could threaten UTM's *perceived* legitimacy. Universities have traditionally been praised for providing more liberal types of education (Kraatz & Zajac, 1996; Stevens, Armstrong & Arum, 2008). Moving away from this template to specialize in high-demand vocational (Brint & Karabel, 1991; Ruch, 2003) or regionally-minded (Labaree, 1997) programming could violate the liberal

year. Recently, we have placed co-op students across several departments in AstraZeneca including Medical Affairs, Regulatory Affairs, Marketing, and Corporate Affairs Such quote exemplifies the type of relationship that has evolved between these two actors".

[117] These materials, in being promotional by nature, are not perfect reflections of organizational realities. Nonetheless, they attempt to sell 'real' features of PSE institutions. Over the long term, failures to portray organizations in accurate ways would be sensed by the market, leading to negative consequences for these entities.

education norm. As Stevens, Armstrong & Arum (2008) note, institutional leaders need to establish "symbolic safeguards for protecting what the university calls sacred... It can accumulate wealth, but it has to do so with the appropriate rituals and with fealty to the notion of free and disinterested inquiry" (p. 138). In addition, specializing in non-traditional program areas can lead to financial losses. Jacobs (2013), for example, has noted that many disciplinary fields (globalization studies, etc.) are often 'trendy', and sometimes see their external support dry up after a period of years, leaving universities with programs that generate little revenue. Thus, complying with the wishes of industry can be as a risky strategy for organizations like UTM.

This strategy can also have benefits. Financial resources derived from corporate entities can be used to prop up new facilities and expand the institution's research capabilities. Moreover, very selective ties can bring status. Sociologists of the professions have long accepted that "the socioeconomic status of the client... influences the professional's own status and ranking" (Larsons, 1979, p. 221; also see Broadbent, Dietrich & Roberts, 2005; Fuchs, 1992). We know, for example, that corporate law is more prestigious than family law, due largely to the status differentials of their respective clients (Fuchs, 1992, p. 150). Network research (Podolny & Page, 1998) has also suggested that "if an actor's partner in a network form of organization possesses considerable legitimacy or status, then the actor may derive legitimacy or status through the affiliation" (p. 64; also see Baum & Oliver, 1991; 1992). Using this reasoning, universities can benefit from relationships with prestigious corporations. The pharmaceutical industry is not only immensely rich, it also operates within the

disciplinary field of medicine, which is located at the very apex of the disciplinary hierarchy (Friedson, 1970). UTM can thus boost its status by virtue of being associated with the pharmaceutical industry.

### *Correspondence within the PCC sector*

With UTM, as well as Sheridan College[118], monopolizing pathways to some of the most lucrative tiers of the local labour market, PCCs in Mississauga have been driven to specialize in the provision of training for a relatively lower-status tier of occupations. Like other low-status PSE organizations (Brint & Karabel, 1991), they have likely done so to avoid direct competition with larger and more experienced competitors. A long list[119] of local PCCs, for example, offer programs leading to lower level positions, such as medical laboratory and office assistants, within the pharmaceutical industry. The Canadian Career College of Innovative Technology and Management also offers specialized programing in niche areas, such as Industrial Bio-Technology and Bio-Informatics, not commonly found across the province. There is also a small cluster of PCCs in Mississauga that have developed specialized programming leading to positions within the manufacturing industry[120].

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[118] Sheridan can be perceived as a lesser player in the field of pharmaceuticals, relative to UTM. It has engaged in similar types of entrepreneurial behaviour, having recently established a partnership with Pantheon Inc., an international pharmaceutical firm with a branch in Mississauga. This relationship has allowed it to acquire financial support ($125,000), while at the same time creating a similar pipeline of sorts between it and local industry. Its Industrial Pharmacy Technologist postgraduate certificate was developed in collaboration with Pantheon in order to meet the needs of that particular company. See Sheridan (2014) for more details.

[119] See the websites of Algonquin Careers Academy, Biztech College, Canadian Career College, Citi College, Canadian Institute of Management and Technology, Evergreen College, The National Academy of Health and Business and Trillium College for examples.

[120] Epic, for example, offers a program for those wishing to become Instrumentation and Controls Technologists. Like Metro College, it also offers programing in mechanical engineering. The Institute for Machine Tool Technology offers programing for Automation and Industrial Electricians and CNC machine

Beyond those PCCs directly servicing manufacturing and pharmaceuticals within the Mississauga region, a sizable group also provides pathways to other popular low-status occupations in the beauty and transportation industries. The former focuses on training individuals to become hairstylists, nail technicians and estheticians. The latter educates truck drivers and heavy equipment operators, occupations that tend to have uniform labour market demand across the province. Importantly, they are occupations that high-status PSE organizations, such as public universities, generally eschew in their programing.

The co-existence of such a large number (53, as of 2013) of PCCs within the Mississauga region highlights how difficult it is for these organizations to 'crowd' themselves out. PCCs tend to be specialists, focusing on one or two program areas, allowing them to locate proximate to peers that offer other types of training without heightening competition. In addition, PCCs tend to be small (mean = 55 students; also see Pizarro Milian & Hicks, 2014), making it difficult for them to exhaust demand within large markets. In contrast, public PSE organizations in Ontario are mostly large generalists, occupying virtually identical market niches, and thus crowding each other out unless situated in large urban centres. For instance, it would be unfathomable to add an additional public university or college to medium-sized cities in Ontario like Hamilton, Windsor or London unless they had a distinct speciality.

tool operators. Stanford International also offers programming in CNC/MasterCAM, along with Industrial Automation. CIMT and A1-Global Training Institute also offers courses on AutoCAD.

## *Profile 2: Hamilton*

Hamilton is situated approximately 50km west of Mississauga. It is relatively smaller, with approximately 500,000 inhabitants, despite being over a hundred years older than Mississauga. The age of the city shows in several ways. Not only is much of its architecture reminiscent of an earlier golden era, but also, much of its local industry. Known to many residents as "Steel City", Hamilton was once a steel-producing Mecca. This has changed in recent decades (City of Hamilton, 2010; Anastakis, 2010), rendering Hamilton an economy in transition. With much of Hamilton's steel production now being outsourced, the manufacturing sector that once clustered around giant steel producers, such as Stelco and Dofasco, is only a shadow of what it used to be. Nonetheless, it remains a primary source of income for the region, pumping close to $17 billion (City of Hamilton, 2010) into the provincial economy and employing approximately 12% of local workers (Statistics Canada, 2011). Included among this industry are National Steel Car, Tiercon Industries and a group of other smaller firms. With manufacturing in decline, efforts are being made to revitalize the local economy (Hamilton Business, 2015). Yet, although clean technologies (City of Hamilton, 2010) and agriculture (City of Hamilton, 2008; 2012; McKenna, 2013) have been identified as areas of potential growth, none has redefined the local economy. The city does possess a strong health care sector, which employs approximately 13% of working Hamiltonians (Statistics Canada, 2011). This sector is home to one of Hamilton's largest employers: the Hamilton Health Sciences Corporation. Hamilton Health Sciences is composed of six hospitals dispersed across the city which serve more than 2.3 million patients every year (HHS, 2014).

### *Peripheral Risk-taking at McMaster University*

McMaster explicitly states that "manufacturing has been identified as a strategic research and educational area because of its importance to Canadian industry" (McMaster University, n.d[c]). The institution's programs, including its Bachelors of Technology and Masters of Manufacturing Engineering, have been developed in consultation with industry to ensure that graduates are "workplace-ready" (McMaster University, n.d). This includes not only teaching them about industry-relevant topics (e.g. lean manufacturing, just-in-time and six-sigma production) but also, allowing them to work alongside industry experts (McMaster University, n.d.[c]). As part of the Masters in Manufacturing Engineering program, for example, students participate in 8-12 month industrial project that allows them to get "real-world experience by working with companies to help them troubleshoot productions areas in trouble, raise profitability, optimize production lines, identify waste, (and) standardize operations" (McMaster University, n.d.[c]). In addition to an academic supervisor, students in this program are also assigned a mentor from the industrial sector (McMaster University, n.d.[c]). McMaster also offers degrees in the field of health, including a Bachelors of Health Sciences, Masters in Global Health, eHealth, Health Management, and a PhD in Health Policy. Graduates of these programs regularly obtain employment in the insurance industry, community agencies, hospitals and pharmaceutical sector (McMaster University, n.d.[a]).

Like UTM, McMaster has erected internal structures that mirror the interests of local actors. For example, in 2005, using a $1 million donation from Dofasco, McMaster established the first Centre for Engineering and Public Policy in Canada (McMaster

University, 2005). Along with this centre, Dofasco also funds research chairs in Process Metallurgy & Automation and Information technology at McMaster (McMaster University, 2005). McMaster is also home to a $19-million, 15,000 square feet, Manufacturing Research Institute (MMRI), established in 2000 with financial support from local industry. It houses several unique research laboratories, including those focusing on design/manufacturing systems, machine systems, micro-manufacturing, as well as robotics and manufacturing automation. McMaster also caters to the health-care sector. It has collaborative ventures with local hospitals, including the McMaster's Centre for Evaluation of Medicines (with St. Josephs Hospital), Centre for Minimal Access Surgery (St. Josephs) and Escarpment Cancer Research Institute (Juravinski Cancer Centre/Hamilton Health Sciences), among others. The university also has an impressive list of industry-backed, health-related research chairs[121].

Though adjusting some of its internal structures to capitalize on lucrative opportunities within its region, McMaster continues to conform to the ideal image of a university. It arguably does so to a greater extent than its Mississauga counterpart. McMaster holds the distinct advantage of old age, which allows it to exhibit many

[121] The list of research chairs includes the Abbott Chair in Education in Rheumatology, supported by the Abbvie Corporation; The Alliance for Better Bone Health Chair in Rheumatology, supprted by P&G Pharmaceuticals and the Sanofi Aventis Group; Population Health Institute Chair in Diabetes Research and Care, supported by the Sanofi Aventis Group; Amgen Canada Chair in Nephrology, supported by the Canadian division of AMGEN; Andrew Bruce Douglas Chair in Neurology, supported by Bartek Ingredients Inc; AstraZeneca Chair in Respiratory Epidemiology, Moran Campbell Chair in Respiratory Medicine and AstraZeneca Chair in Gastroenterology, all supported by AstraZeneca. David Braley and Nancy Gordon Chair in Thromboembolic Disease, supported by the president of Orlick Industries Limited; Eli Lilly Canada Chair in Osteoporosis and Eli Lilly Canada / May Cohen Chair in Women's Health; GlaxoSmithKline Chair's in Gastroenterology, Lung Immunology; Three different Heart and Stroke Foundation of Ontario Chairs in Cardiovascular Research, Cardiovascular Disease, Population Health Research; LEO Pharma Chair in Thromboembolism Research; St. Joseph's Healthcare Regional Academic Chair in Critical Care Medicine; St. Peter's / McMaster Chair in Aging, supported by the St. Peter's Hospital Foundation.

physical qualities that are perceived as legitimate within PSE. Its campus is littered with old buildings adorned with ivy-covered walls and mythical stone creatures. Beyond its physical structures, McMaster is made up of a number of departments (classics, anthropology, etc.) whose presence is primarily attributable to institutional desires to appear legitimate given that they bear no obvious relationship with economic activity occurring only a few kilometres away within the downtown Hamilton core.

### *Correspondence within the PCC Sector*

The PCC sector in Hamilton shares a high degree of correspondence with the local economy. The Academy of Learning, CDI College, National Academy of Health and Business and Trios College, all offer programs leading to positions in the health care sector[122]. There are also four PCCs within the city that focus exclusively on health care related programs, including the Canadian Institute of Dental Hygiene, Hamilton Institute for Health Personnel and two separate Grand Health Academy locations. Similar correspondence can be observed between the local PCC sector and manufacturing industry. Advanced Welding Techniques offers a wide range of welding programs and courses that prepare students to enter positions across the City's manufacturing industry. This includes 8 (Welder Operator Manufacturing), 12 (Structural Welder) and 16 week (Welder Trade Certification) programs. It also provides specialist courses in flux cored arc, gas metal arc, basic/advanced gas tungsten arc and multiple levels of shielded metal

[122] Trios offers programs for medical office assistants and physiotherapist assistants. CDI offers courses for medical office administrators. The Academy of Learning programs for medical information assistants, medical office assistants and medical assistants/receptionists. The National Academy of Health and Business offers programs for health services office administration, intra-oral dental assistants and physiotherapy assistant.

arc welding courses. There is also the Canadian Institute of Non-Destructive Testing, the only PCC of its type in the province that offers over fifty courses that can lead to positions within manufacturing, as well as a number of other adjacent industries.

### *Profile 3: London*

The City of London is located approximately 130km west of Hamilton. It is the smallest city analyzed in this chapter, with approximately 350,000 inhabitants. An analysis of official documents (Porter, 2013; City of London, 2012; LEDC, 2014; Statistics Canada, 2011) indicates that it possesses a relatively less diverse economy than other examined regions. Nonetheless, it shares some similarities with them, especially Hamilton. London has a strong health care sector (City of London, 2012; LEDC, 2014), where approximately 14% of its residents are employed (Statistics Canada, 2011). London's largest employer, the London Health Sciences Center (LHSC, 2014), hails from this particular sector. Among its enterprises are the Children's Hospital and Victoria Hospital, as well as specialist offshoots such as the Kidney Care Centre, the Children's Health Research Institute and the Canadian Surgical Technologies & Advanced Robotics unit (LHSC, 2014). Alone, London Health Sciences employs approximately 15,000 workers (LHSC, 2014).

London also has a strong manufacturing industry. It includes several large entities like McCormick Canada, a tractor manufacturer that has been producing equipment in London since 1900 (McCormick, 2014). There is also 3M (2014), a producer of numerous products ranging from tape to roofing granules. Other major manufacturers in the area include STIHL, a producer of chainsaws and other garden power tools; Trojan

Technologies, a producer of environmentally friendly water treatment technologies, and General Dynamics Land Systems, a self-described leader in the production of light armoured military vehicles. This industry employs approximately 11% of the working population in London (Statistics Canada, 2011).

### *Peripheral Risk-taking at Western*

Western University has aligned its internal structures with both of these main industrial sectors. Western's Mechanical Engineering program, for example, "provides students with the opportunity to specialize directly in manufacturing, giving them the essential knowledge to work in this specific sector" (LEDC, 2014). As a part of this program, students are allowed to "spend 12 to 16 consecutive months working in a paid engineering position prior to the last year of their Bachelor of Engineering Science (BESc) program" (Western University, 2015). This internship affords students a "longer work term and more extensive experience... which ensures that students are able to work on advanced projects, seeing them through from beginning to end" (Western University, 2015). Western also offers a variety of undergraduate programs, including integrated and mechanical engineering, which exhibit correspondence with local manufacturing.

Beyond tailored degrees, Western has actively catered to the manufacturing sector through its University Machine Services unit (Western University, 2014). Run out of Western's Thompson Engineering Building, this unit serves local manufacturers by renting out its expertise in CNC machining, prototype development manufacturing, 3D modelling and welding fabrication. At the time of writing, technicians were rented out for $59 and hour. Meanwhile, engineers and project managers went for $64.90. Western's

UMS is also equipped with a smorgasbord of fabrication equipment, including a 50-ton press, a variety of welding tools and milling equipment that it makes available to manufacturers for a fee. Asides from offering these services to local manufacturers, Western has also established a 22-hectare advanced manufacturing park meant to facilitate collaboration among manufacturers, as well as between industry and government (DeBono, 2014). As one occupant of the park suggests, it allows him to take his "cup of coffee, knock on someone's door and say 'Do you have five minutes, I want to discuss something with you?" (DeBono, 2014). Western's Schulich School of Medicine and Dentistry also possesses extensive ties with the local health care sector. This academic unit possesses connections with a series of hospitals and research centres in the region[123]. It also offers a number of unique undergraduate and graduate programs which feed the local health care sector.

Like McMaster and UTM, Western manages to balance its relationships with local economic sectors with a continued preoccupation with granting degrees and hiring researchers with little if any direct correspondence with the region. For example, Western runs a Department of Classics that, at the time of writing, touted the recent hire of a candidate whose research interests included parent-child conflict in ancient Egypt. Western's Department of Film Studies advertised the employment of a researcher who specializes in Latin American cinema. Similar appointments exist across the philosophy, theory and criticism and sociology departments, just to name a few. It is very difficult to justify the hiring of these individuals solely by referencing the needs of the local

[123] This includes the Chatham-Kent Health Alliance, South Bruce Grey Health Center, Middlesex Hospital Alliance and Alexandra Marine & General Hospital.

economy. However, they are far more intelligible when seen in light of the broader institutional environment that extends far beyond London's city limits.

### *Correspondence with the PCC sector*

The PCC sector in London corresponds closely with local industry, serving as a pathway to many low-status occupations. Medix College, for example, provides training for those wishing to become massage therapists, medical lab or pharmacy assistants. The D'Arcy Lane Institute provides specialized training in massage therapy. Beyond these specialist PCCs, several other generalists within the region offer programs meant to place students in clinics, medical offices, medical claims insurance companies, hospitals and nursing homes[124]. Several PCCs in London also serve as pathways to the manufacturing industry. The North American Trade School, as well as Welding At Its Best, offers programs for those wishing to become welders. The Pathways Skill Development & Placement Centre also offers a light industrial training program that equips "individuals with the essential skills and certificates to succeed in the warehouse and manufacturing industry" (PSD, 2014).

### *Summary*

In each geographical area analyzed it is possible to observe behaviour that corresponds with insights provided by contemporary new institutionalists (Davies & Pizarro Milian, forthcoming) and population ecologists (Hannan & Freeman, 1977). Within the public university sector, all observed institutions have lucrative arrangements (research centres/chairs, degree programs, etc.) with high-status industrial actors in their

[124] See Alphalogic, Concordia, Everest, Trios and Westervelt for examples.

immediate surroundings. These are actors with ties to prestigious disciplinary fields, such as medicine and engineering. That being said, none have embraced changes that violate global normative standards (Frank & Meyer, 2007) about what a university *is* and *does*. Furthermore, institutions balanced risk-taking activities with continued involvement in the teaching of traditional disciplines that bear little correspondence with local environments. This anchors their identities as legitimate universities. PCCs operate according to a different logic. In this sector, there is no such thing as an institutionalized core. There is no anthropology or gender studies. The rule of thumb is that if there is no demand for a program, or if competition is too intense, it will be phased out.

## Mapping the 'Core-Isomorphism' / 'Peripheral Risk-Taking'

As indicated above, PCCs and public universities correspond differently with their surrounding environments. In this section I apply the concepts of ‘core-isomorphism’ / ‘peripheral risk-taking’ across the entire public university sector, attempting to identify 1) a set of high-frequency units that universities embrace in order to signal legitimacy (core-isomorphism) and 2) low-frequency units by which they capitalize on lucrative opportunities afforded by their local environments (peripheral risk-taking). I explore this issue using counts for all major teaching-related academic units, such as 'departments', 'schools' and 'institutes', present at public universities in Ontario during the 2014-2015 academic year.

### *The Institutionalized Core*

The institutionalized core, consisting of the most popular academic units within the sector, includes disciplines with which we have grown accustomed to seeing on

academic calendars, such as economics, history and political science[125]. Sociologists (Friedson, 1970; 1988; 2001; Larsons, 1977; Abbot; 1988, 2001; Fuchs, 1992; Brint, 1994) have long analyzed of how particular disciplines and their associated professions become legitimate and acquire status. My aim is to document the prominence of these fields across public universities in Ontario, and note that they are driven by pressures exerted by a diverse group of entities, such as governments, professional associations and labour markets. These pressures have, over time, rendered academic units associated with these disciplines as 'taken-for-granted' (Meyer & Rowan, 1977) components of the modern university which, in turn, signal legitimacy to observers.

**Table 24. High-Frequency Academic Units**

| **Academic Unit** | **Frequency** | **Academic Unit (cont.)** | **Frequency** |
|---|---|---|---|
| Economics | 22 | Psychology | 19 |
| History | 20 | Business | 18 |
| Political Science | 20 | Mathematics | 18 |
| Biology | 19 | Philosophy | 18 |
| Physics | 19 | Sociology | 17 |

## *Risk-taking Across Ontario Public Universities*

But beyond this institutionalized core lie examples of peripheral risk-taking across Ontario public universities. The University of Guelph, for example, is home to the only animal and poultry science department in the province. Its faculty members are leading experts in animal breeding, nutrition and physiology, among related fields. This speciality

[125] Had I aggregated the different types of engineering, this would have been the most popular discipline within the sector, with 63 references. That being said, it made little sense to bundle together a diverse group of specialized academic units, such ranging from nuclear to civil engineering.

corresponds with Guelph's surrounding agricultural region[126], as do several lucrative joint-ventures with local industry, such as the Bioproducts Discovery and Development and the Livestock Research and Innovation centres[127]. Trent University, another institution situated in an agricultural region[128], is home to the sector's lone program in sustainable agriculture and food systems. It leverages its growing reputation within said field to draw funding from industrial actors such as Elevance Renewable Sciences Inc., the Ontario Soybean Growers, 3M, DuPont Canada and ExxonMobil. Queen's and Laurentian also have examples of peripheral risk-taking, both possessing academic units specializing in mining, a unique economic sector within their local communities[129].

| **Table 25. Select Low-Frequency Academic Units** | | | |
|---|---|---|---|
| **Academic Unit** | **Frequency** | **Academic Unit (cont.)** | **Frequency** |
| Mining | 2 | Creative Industries | 1 |
| Hospitality/Tourism | 2 | Anishinaabemowin | 1 |
| Poultry Science | 1 | Industrial Manufacturing | 1 |
| Sustainable Agriculture | 1 | Military Science | 1 |

[126] They City of Guelph identifies agri-food and innovation as one key area of its economy. It highlights that within the region "there are more than 90 companies employing approximately 6,500 people in this sector. This includes government, education, biotechnology, agri-food technology, agricultural supply, equipment, food processing, associations, research, marketing and other services" (City of Guelph, 2014). Hence, there is reason to believe that this is a strong industry within the region.

[127] It is important to note that peripheral risk-taking is not the only logic at play here, there is also an element of path-dependence (Mahoney, 2000) or organizational imprinting (Stinchcombe, 1965). Guelph was established through the amalgamation of pre-existing entities, including the Ontario Veterinary and Agricultural Colleges. This likely influenced futures areas of 'strength' and thus, peripheral risk-taking strategies.

[128] The Peterborough Economic Development website notes that "agriculture is an important contributor to the regional economy with an economic impact that exceeds $400M annually. Grains and oilseeds, beef and dairy cattle and emerging new products contribute to the success of agricultural based businesses in Peterborough County" (Peterborough Social Planning Council, 2011). Hence, in this case, it is also reasonable to assert that this is a strong sector of its economy.

[129] A Google search of "mining" in either Kingston (Queen's) or Sudbury (Laurentian) will reveal mining corporations in only a select number geographical areas in Ontario.

### *Alternative Forms of Peripheral Risk-Taking*

Although the examples above focus on university-industry linkages, peripheral risk-taking can also take alternative forms. For example, Algoma and Nipissing, both located in northern Ontario, possess academic units that offer degrees in 'Anishinaabemowin', an Aboriginal language. Similarly, Toronto possesses academic units focused on the study of European languages spoken by large numbers of its second/third generation immigrants. These adaptations to minorities serve as a source of legitimacy in and of themselves. Academic units (African American, Women's Studies etc.) catering to traditionally marginalized groups provide universities with a badge to signal its commitment to social equality.

#### *Summary*

These findings provide evidence of an 'institutionalized core' within the public university sector, consisting of a set of academic disciplines that are sheltered from market forces, and immediate exigencies of local environments. Selected evidence also reveals examples of 'peripheral risk-taking' within the sector, whereby universities tap into unconventional but lucrative opportunities offered by their local environments in order to secure financial resources or status.

## Stratified Connections and Organizational Reputation

The link between stratified connections and organizational reputations[130] has been under-theorized by organizational scholars. That being said, several ideas in

[130] By 'organizational reputations' I am not referring to legitimacy, ie., whether an organization's form is perceived as socially acceptable or taken-for-granted. Instead I refer to the esteem enjoyed by an organization and its relative standing vis-a-vis others within the field in terms of prestige or status. Deephouse & Carter (2005) also make this useful distinction.

organizational studies (Deephouse & Carter, 2005) and economic sociology (Podolny, 1993; Podolny & Page, 1998) can be used to understand their relationships. I draw on this body of work to argue that organizations that can ignore local pressures often possess extra-local reputations. Meanwhile, those who are tightly coupled with their locales generally achieve only regional profiles, known by local employers and students, but not beyond their region. Stratified connections thus coincide with the reputations of PSE organizations, the value of their degrees and outcomes of their graduates.

One might ask: how is the decoupling of organizational structures from local exigencies associated with reputational differences? It is important to start by remembering that such exigencies are essentially *dynamic*, as opposed to *static*. Hence, PSE organizations like PCCs, that need to remain synchronized with them, must devote considerable effort and resources to actively monitoring and anticipating environmental changes. This includes conducting market research, as well as subsequently modifying, dismantling and erecting new programs. The potentially adverse effects of this type of organizational behaviour are relatively straight-forward. An organization that must continuously reinvent itself is unable to accrue the documented benefits of age (Hannan & Freeman, 1977) and specialization (Ethiraj & Levinthal, 2004). They are continuously exiting familiar markets and paying the costs of market-entry (Gorg, 2000; Karakaya, 2002).

Public universities are in a radically different position. Steady government support affords them a substantial degree of autonomy, and thus, leeway to ignore mundane local exigencies (e.g. labour markets). This is evidenced by the fact that, despite facing

constant pressure to become more vocationally-oriented (Kraatz & Zajac, 1996), there is general stability in their program offerings from one decade to the next. This insularity has beneficial effects when it comes to reputations. For starters, universities have been able to foster the highly eccentric and speculative pursuits of researchers within them[131]. This has paid off on numerous occasions, with the production of a long list of world-changing innovations[132]. Such inventions have enshrined the names of these institutions in the history of science. There is, arguably, no greater source of 'cachet'. Second, universities have been able to leverage the human capital of these eccentric specialists to foster lucrative relationships with external actors. Through such relationships, they have been able to accumulate vast financial resources that have allowed them to further enhance their research capabilities. Given such dynamics, it is of little coincidence that the reputation of research universities far outstrips that of more teaching and vocationally-oriented institutions.

The association between stratified connections and reputations is further evidenced by data gathered through phone interviews with PCC administrators. It is important to note the distinct spatial limitations that PCC administrators themselves attribute to their institution's reputation. As several respondents noted:

> "Sometimes things get rough and I wonder, why the hell should I stay here? That's the first urge, to want to pack it up and leave. I've probably

[131] This has not always been the case. It is important to remember that for most of its existence the university has been a conservative religious institution. During earlier periods, innovations mainly occurred outside of the university. Inventors, visionaries and artists often survived due to the patronage afforded to them by wealthy individuals, families or organizations. The stereotypical examples here being of Leonardo da Vinci, Michelangelo and James Watt.

[132] The University of Toronto, for example, is the birthplace of insulin and the electron microscope; the Hepatitis B vaccine and electronic computer were invented at the University of Pennsylvania; researchers at the University of Wisconsin also invented Warfarin and Vitamin D fortification

> planned my escape from [city] a dozen times over the last couple of years. But, whenever I have put serious thought into it, I come around to the conclusion: where am I going to go? *I've developed a clientele here, people know me.* Students from when I first started up send me their nieces and nephews. If I pick up and leave that's not going to follow me. Word of mouth can only travel so far. Nobody knows me in Orillia or Newmarket. I would be starting from scratch. I would be worse off than before." (Business PCC in Small Town North of the GTA, my emphasis)

In cases such as those quoted above, PCC administrators admitted that institutional reputations were of a distinct local character. Even after achieving notoriety in a specific region, some doubted that it would carry over to regions less than an hour's drive away. This, of course, greatly contrasts the dynamics present in the university sector where reputations at times span the globe over, where Harvard and its elite peers are the 'Holy Grail' irrespective of whether you are an ambitious youngster in Shanghai, Seattle or Sao Paulo.

There were exceptions to this general pattern, as would be expected. During my interviews with administrators at truck driving schools, a specialist type of PCC, respondents from two reputable schools indicated that they attracted students from outside of their region. This occurred despite the presence of more proximate training options. One administrator, when asked if he ever felt pressure to reduce the cost of his training programs, answered:

> "No, to be honest... We really just rely on our reputation. Like I said, we are a family-run business that has been around since (specific date omitted to protect individual's identity). People know us. Call any transport company and ask them what their hiring protocol for an entry level operator is. The first school that will come out of their mouth is ours. People know our brand. *And this isn't just a local thing, it's all over Canada.* We train for transport companies out in Manitoba, out east, Quebec, you name it. Our name has a pretty extensive reach. So we are not in a position where we have to compete by giving discounts." (Truck Driving School in South West Ontario, *my emphasis*)

In one other case, when they were asked if their school mainly trained individuals living proximate to their locations, administrators answered:

> "No, not at all. At first, like everyone else, we did. *But now, we train people from across the province and even some from outside the province*. We just had a guy who got sent to us from Quebec. We got a good reputation, so people are willing to come all the way out here or to our other locations to get trained."
> (Truck Driving School in Northern Ontario, *my emphasis*)

These cases are exceptions in the PCC sector. In no other occasion did I run into any references to extra-local reputations. That being said, there are likely similar exceptions across other niche program areas. It is difficult, though, to equate the reputation of these PCCs with those of elite public universities in the province. Consider that, while scholars across the globe have likely heard of the University of Toronto, it is questionable whether truck driving school administrators in other countries would be aware of the existence of Ontario's reputable PCCs.

These reputational differences at the organizational level have individual level consequences. Public university graduates perform better, on average, than their counterparts across a group of measures, including income, employment rates and financial debt (see Chapter 5), followed in sequence by graduates of the public college and PRU sector, and at a distance, PCC graduates. This ordering coincides with the variable degrees to which these organizational sub-populations are captives of their local environments. This pattern likely holds across nations. In the U.S., for example, graduates of PSE organizations characterized as 'disconnected' from their local surroundings, the ideal-typical case being Ivy League schools, experience better socio-economic outcomes

than their counterparts at more locally-minded institutions, like community colleges. This is likely a consequence of both self-selection effects, with high-ability students migrating to more elite institutions (Lucas, 2001), and institutional effects, where going to Harvard, Oxford, Ecole Polytechnique can boost the fortunes of any ambitious youngster.

Here, interview data also sheds light on the relationship between organizational reputations, credential value and graduate outcomes. Administrators pointed to preferential hiring relationships that existed between certain schools and transport companies. As several respondents noted:

> As we've grown, we have also locked horns with some more distant schools with respects to establishing closer relationships with carriers. *Some carriers only hire from certain popular schools.* We've made some inroads here. It's an ongoing process to break through into this market though. (Northern GTA Truck Driving School, my emphasis)

> The carriers know me very well, I have personal relationships with a lot of them. In fact, we have developed such good relationships with them, I have been involved in the industry in different capacities for years, *some go as far as only hiring my graduates.* Others are less fussy about who they hire, but they still send me some of their drivers for re-training because they know the type of training that we offer… (Golden Horseshoe Area Truck Driving School)

When pressed to explain the existence of these preferential hiring relationships, and how they were developed, administrators were rather consistent: their track record in providing quality training, or in other words, their reputation, was front and centre[133].

> It (reputation) plays a huge role. These carriers recognize that since (date omitted to protect the identity of this individual) we have been providing quality entry level training, that we have been doing things the right way. Pardon my French, but if we send out "shitty drivers" to a company, they

[133] The logic expressed through such data hint an understanding of reputations, and subsequent individual level effects, that aligns with orthodox economic theorizing (Shapiro, 1982;1983; Stiglitz, 1989). Such tradition posits that actors achieve a favourable reputation by having a 'track record' of producing quality goods or services (Stiglitz, 1989).

> get directly associated with us. Meanwhile, and I am going to use a sports term, if we send out a 'blue chip' driver, the opposite happens, it helps our reputation. That's what we have been consistently doing. (South Western Ontario Truck Driving School)

It is difficult to extrapolate from PCCs to other PSE sectors, since few businesses only hire from certain public universities. But within specific pockets of the labour market, such as academia and law, there are likely forms of credential-based preference. Canadian sociology departments and Bay Street law firms both have a proclivity to hire University of Toronto graduates. This, of course, mirrors trends south of the border, where big law and finance firms are notorious for hiring exclusively from Ivy League law schools (Binder et al., 2015). Such preferences tend to benefit PSE organizations that are aloof from mundane local exigencies, and can march to the beat of their own drum.

### *Summary*

Stratified connections are associated with (1) organizational reputations, the (2) value of the credentials and (3) graduate outcomes. Institutions that are loosely coupled with their local environments tend to have robust reputations. Meanwhile, those tightly coupled with their local environments tend to have relatively modest reputations. Institutional reputations shape the value of their credentials, in turn generating variable outcomes for graduates. This broad picture is evidenced by both sector level data discussed in the previous chapter, as well as interview data on organizational reputations in this chapter. The notion of stratified connections offers a more refined understanding of the mechanisms through which organizational structures emerge and are reproduced. Sociologists have discussed organizational environments for decades, yet those ideas have

not been applied to the study of organizational status hierarchies within PSE, nor connected to individual level stratification.

This chapter attempted to bridge organizational and stratification research by showing how concepts such as coupling and environments shape organizational hierarchies. The next chapters attempt to strengthen that bridge by highlighting how organizational networks (Chapter 7) and sagas (Chapter 8) help produce and maintain those hierarchies and fuel individual-level social stratification.

# Chapter 7

## Network Structures

In this chapter I argue that the institutional status-hierarchies identified in earlier chapters are reinforced by organizational networks. Each sector of Ontario PSE is an independent cluster characterized by variable degrees of connectivity and embeddedness. I hypothesize that, at the apex of the system, the public university sector has the highest levels of inter-connectivity and embeddedness. Those organizations have been interacting for over a century through a diverse set of associations for a variety of purposes, both technical and non-technical. Down the status-hierarchy there is less inter-connectivity and embeddedness. In the public college sector, organizations interact regularly and for diverse reasons, but network ties are far younger. Then, in the private sector, inter-connectivity is dramatically lessened and embeddedness all but disappears. These network characteristics, as research has repeatedly found (Granovetter, 1985; Uzzi, 1996; 1997; Kraatz, 1998), directly influence organizational development. They empower some actors and thwart the ambitions of others. Through mapping network structures across Ontario PSE, I shed light on an important and largely ignored organizational mechanism that helps to reproduce institutional hierarchies in this field. I hypothesize the following:

> **H3:** The Ontario PSE system is composed of independent network clusters with levels of embeddedness corresponding with organizational average status and age.
>
> **H4:** PSE organizations connected to developed network structures will have access to resources not available to network isolates.

This analysis aims to refine understandings of student flows within Ontario PSE by showing that privileged students migrate not only to higher credential tiers (Raferty &

Hout, 1993) and more prestigious institutions (Lucas, 2001), but also, to institutions with distinct network structures, namely those that are intensely embedded and inter-connected. This new layer of detail adds to our evolving understanding of organizational stratification and how it can inform contemporary research on social inequality at the individual level, which tends to emphasize the importance of personal network ties (Small, 2009).

## Theoretical & Methodological Recap

**"**Embeddedness" is the presence of 'thick' social relationships between actors that facilitate reciprocity (Coleman, 1988), joint problem solving (Uzzi, 1996), information transfers (Kraatz, 1998) and status reproduction (Lifschitz, Sauder & Stevens, 2014). It has three precursors, as identified by (Uzzi & Gillepsie, 2002), including (1) tie duration, (2) multiplexity and (3) network concentration. The logic underlying these factors and embeddedness is as follows:

1. *Tie Duration*: The longer two actors interact, the more likely embeddedness is to exist.
2. *Multiplexity*: Interacting for multiple reasons increases the likelihood of embeddedness.
3. *Network Size*: Embeddedness is more likely to develop in small networks with more intimate ties.

To examine these three concepts I draw on several empirical sources. The first is a data set I constructed which contains a listing of all associations and other inter-organizational relationships (accreditation agencies, etc.) advertised on the websites of

each PSE organization in Ontario[134]. The second data source is the websites of each association or other entity listed in the aforementioned data set. I manually combed these websites for establishment dates (*tie duration*), assuming that ties between organizations in each sector started to coalesce, at the very least, when they entered these formal associations. This may be a conservative measure since some organizations likely interacted informally prior to the creation of these formal structures. To obtain a measure of *multiplexity*, or the multidimensional nature of relationships between organizations, I examined the different ways that PSE organizations interacted through both multi-purpose (COU, Colleges Ontario) as well as function-specific associations (OCAA, OUA, etc.). Data on this was gathered through the "mission" and "about us" sections in association websites. To observe *network size*, I noted the population size of each sector in my data set. I measured *network concentration*[135] as "exclusive" associations (i.e. the 'u15') that accept only a fragment of the total sub-population. Since the PCC sector has so little publicly available information on associations and inter-organizational ties, I also tapped into a third empirical source: 21 of phone interviews with PCC administrators (see the methods chapter for further methodological details).

## Findings

### *Public University Sector*

Ontario's public university sector is home to one central, provincial-level

[134] For PCCs and small PRUs (all but Redeemer & Tyndale), I looked at every page on their website. For public universities and colleges, I looked at main institutional sites (about, history, news sections, etc.), without crawling into each individual departments websites.

[135] Sectors with multiple exclusive associations may tend to have a lesser degree of overall network concentration, and instead have 'silos' of embeddedness.

association: the Council of Ontario Universities (COU). This association has a high participation rate, with all 21 of Ontario's publicly assisted universities, including the federally funded Royal Military College, taking part. One of the primary goals of this association, established in 1962, is to facilitate collaboration and lobbying efforts among member organizations on a wide variety of issues affecting the sector (COU, 2014; Monahan, 1998; 2004). The COU does this by providing official channels through which representatives from each member organizations are able to interact. For example, at the highest level, the COU's governing council is populated by an "executive head" as well as an "academic colleague" from each member institution (Fallis & Rose, 2008, pg. 1). The COU also occasionally brings representatives from member organizations together for 'working groups' and 'task forces' that it organizes to explore specific issues within the sector, such as university capacity, research, quality measurement, access, privacy, student financial assistance and graduate enrolment expansion (Fallis & Rose, 2008). The COU (2014) also co-ordinates a number of technical services for its members, including the exchange of documents, application processing, and an online portal for research resources.

COU is vital to the inter-organizational relationships in the public university sector. It showcases *multiplexity* - the multiple reasons why public universities interact. It serves as both a hub for political mobilization around pressing policy issues, as well as a mechanism through which technical interchanges (document sharing, etc.) are coordinated. It represents a high degree of *network concentration* given that all eligible organizations within the sector are members. No one is excluded or self-selects out of this

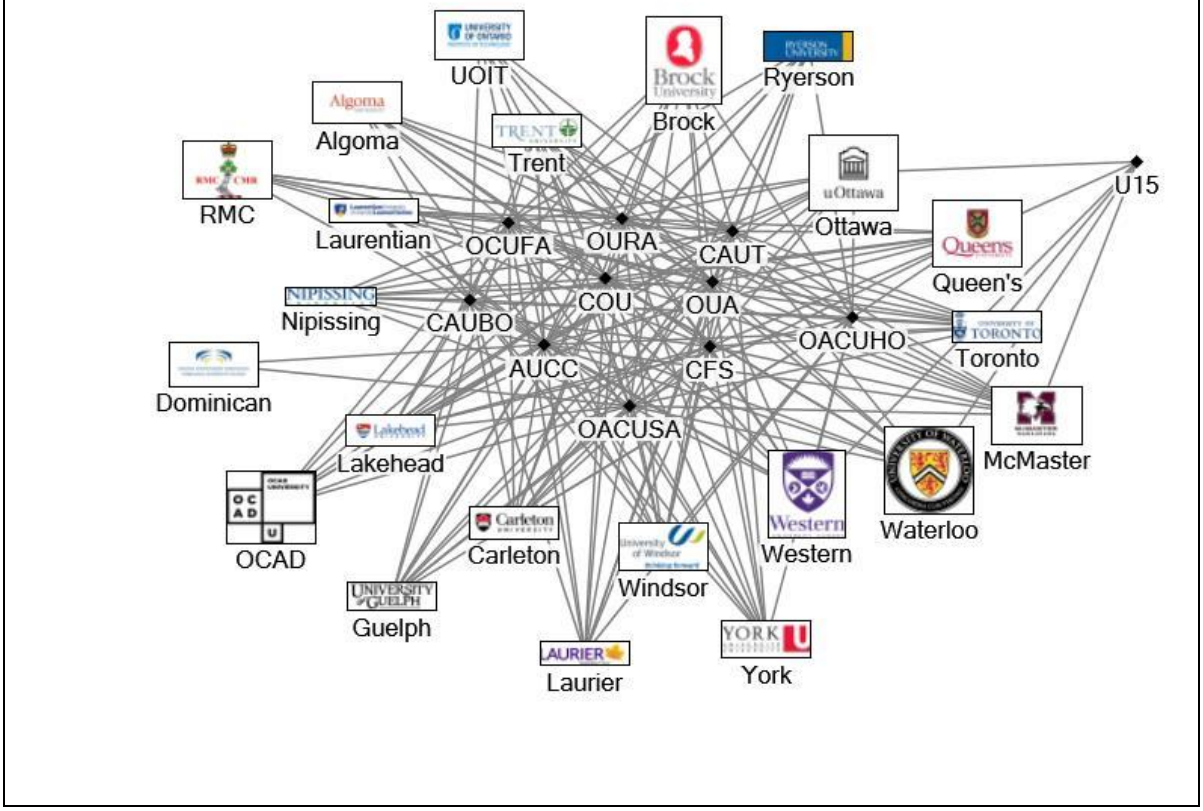
association. COU's establishment date suggests that relationships between universities in the sector go as far back as the 1960s. However, given the longer history of the public university sector, we need to further explore *tie duration* by examining the establishment dates of other associations within this sector.

While the COU has existed for roughly 50 years, its national counterpart, the Association of Universities and Colleges of Canada (AUCC), was founded in 1911, suggesting that relationships between some public universities in Ontario predate the COU by a half century. The AUCC also provides strong evidence of *multiplexity* within the sector, since it mirrors many of functions that COU performs. This overlap between the two associations is likely a relic from a previous era when the small size of the PSE system made provincial-level associations like the COU impractical. As such, like the COU, the AUCC's (2014) mission includes providing a "unified voice" for Canadian universities. The AUCC also has some other peripheral functions such as gathering representatives from all eligible universities in the sector for leadership seminars, and managing scholarship programs.

Another central association within the public university sector is Ontario University Athletics (OUA), first established in 1906 as the Canadian Intercollegiate Athletic Union (CIAU). It is of comparable age to the AUCC, suggesting that older Ontario universities share bonds dating back to at least the beginning of the 20$^{th}$ century. The OUA serves as the "provincial voice for inter-university sport" (OUA, 2014), and manages athletic leagues that allow all the public universities (except OCAD) to compete against each other in 23 different sports. The OUA provides further evidence of *network*

*concentration* (near universal participation) and *multiplexity* (non-technical forms of interaction).

**Figure 7– Public University Network Map**




The sector also contains additional associations that enjoy near universal participation, including the Ontario Confederation of University Faculty Associations (est. 1964), Canadian Association of University Teachers (1954), Canadian Association of University Business Officers (1937), Canadian Federation of Students (1981), Ontario Association of College and University Security Administrators (2002) , Ontario Confederation of University Faculty Associations (1964), Ontario University Registrars Association (1964), Ontario Association of College & University Housing Officers (N/A)

and Canadian Association of University Teachers (1951).

However, there is a more exclusive network in the sector: the U15 Group of Canadian Research Universities. This association was initially forged when McMaster, Queen's, Toronto, Waterloo and Western started to meet informally during the 1980s to discuss mutual interests, such as promoting research investment at a provincial level (U15, 2014). It has expanded in recent years to include one other Ontario university, the University of Ottawa, while continuing to exclude all others in the sector, which tend to be smaller, younger and less research-intensive institutions. It constitutes the only truly exclusive association within the public university sector.

### *Summary*

The public university sector is home to several well-establishedassociations, some dating as far back as the early 1900s. These organizations interact regularly for both technical and non-technical purposes, collaborating to strategically influence PSE policy at both national and provincial levels, co-ordinating technical transactions, such as inter-library book loans and student transfers, and competing against each other in a host of athletic activities. In their totality, these interactions reveal a considerable degree of general inter-connectivity and embeddedness within the sector.

The characteristics of this network cluster correspond with its wider organizational environment. Institutional environments (Meyer & Rowan, 1977; 1978; DiMaggio & Powell, 1983) tends to have strong consensus over how schools should look and behave in order to appear legitimate. The presence of strong norms regulating organizational behaviour likely creates a premium for participating in common associations such as the

COU, AUCC and OUA, despite the fact that they have little to do with the primary functions of a university. Irrespective of their specific role, such networks have become taken for granted within the sector. However, similar dynamics are missing in other sectors, where there is far less consensus over the ties an organization should possess.

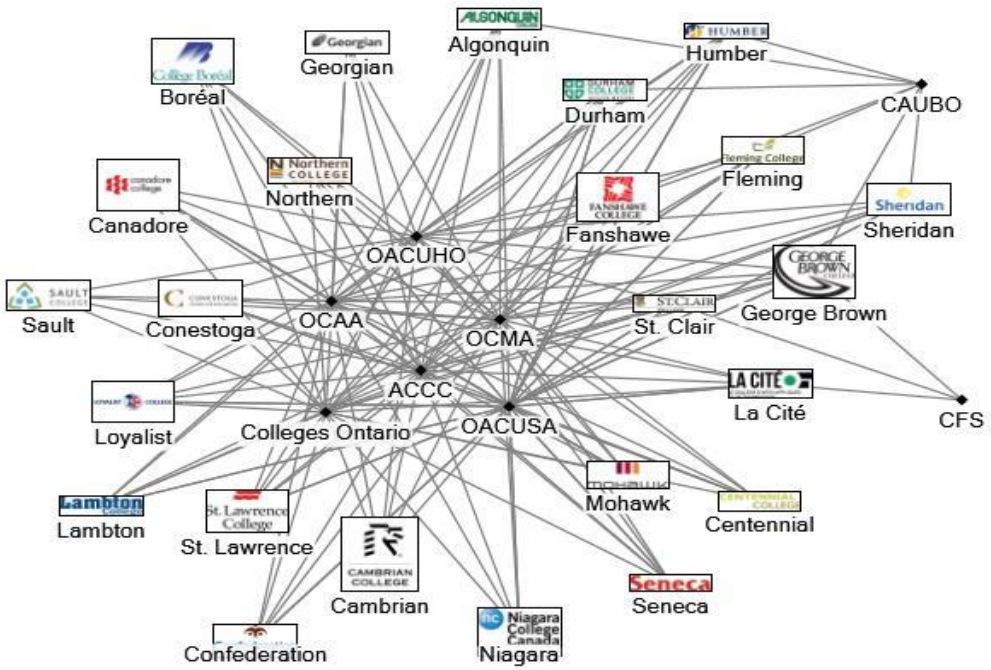
### *Public College sector*

The network structures in the public college sector are generally isomorphic with those in the public university sector. There is an athletic conference, the Ontario Colleges Athletic Association (est. 1967), in which public colleges compete in many of the same sports as the OUA, and also provincial and federal level associations akin to the COU and AUCC. But there are important differences. Some types of associations are simply missing from the public college sector. For example, there is no public college counterpart to the CAUT. Moreover, associations in this sector also tend to be relatively newer than those in the public university sector, since the public college sector is younger, having been established during the 1960s.

The sector's main advocacy group, Colleges Ontario, represents all 24 eligible organizations. Like the COU, it coordinates advocacy and outreach campaigns for policy improvements (Colleges Ontario, n.d.). Like the AUCC, Colleges Ontario also regularly gathers representatives from member organizations for meetings, workshops, and conferences in order to build leadership within the sector (Colleges Ontario, 2014). During its 2015 annual meeting, for example, Colleges Ontario featured speakers like Rick Hansen, a Paralympic athlete, and Daniel Levitin, an acclaimed author, musician and professor at McGill University. It also acknowledges individuals who had a lasting

and positive impact on the college system. This association thus provides evidence of both *multiplexity* as well as *network concentration* within the sector.

**Figure 8. Public College Network**




There is also a national-level advocacy group for public colleges, the Association of Canadian Community Colleges, established in 1972. This association represents members with the federal government and industry (ACCC, 2014) and like the AUCC, organizes conferences, programs, awards and workshops to facilitate networking (ACCC, 2014). For its 2015 conference, the ACCC (n.d) facilitated many discussions about innovative practises in the sector. There are also more peripheral sector-specific associations within the sector, such as the Ontario Colleges Mathematics Association,

established in 1980 to promote excellence in mathematics education.

### *Theorizing Bridges and Status*

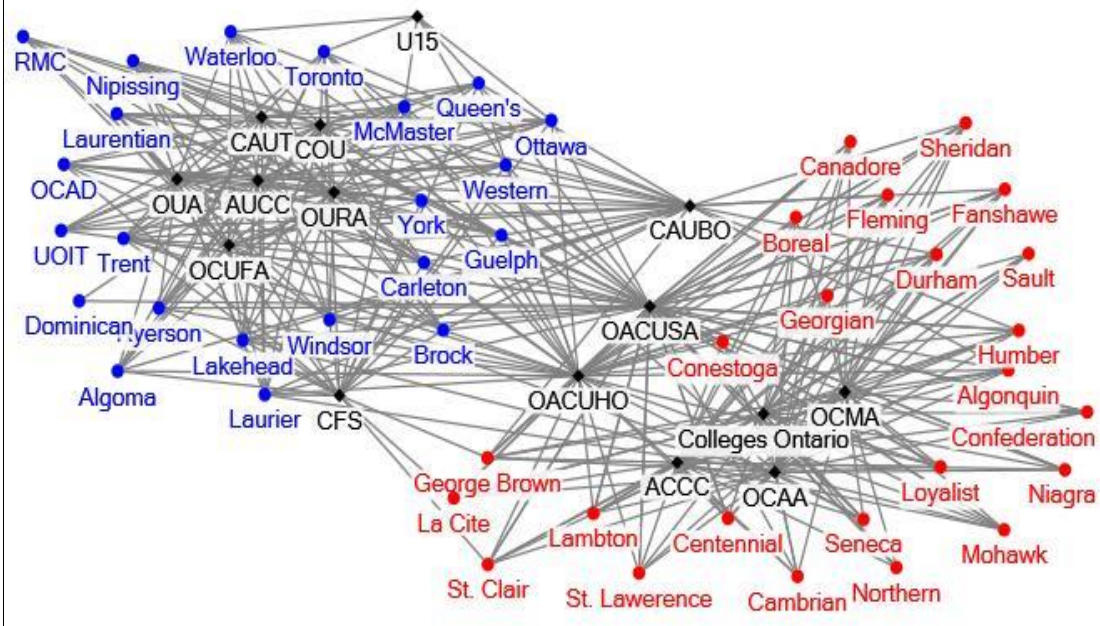
Although the public college sector has its own network cluster, there are several associations that bridge it to the public university sector. These associations possess members from both public sectors. There are three types of "bridge" associations[136]. The first (Type A) are explicitly multi-sector associations, those that are purposely devised to include both university and college members, including the Ontario Association of College and University Housing Officers (OACUHO) and the Ontario Association of College and University Security Administrators (OACUSA). The second (Type B) are associations traditionally composed of university members that have been penetrated by colleges, including the Canadian Association of University Business Officers (CAUBO) and the Canadian Federation of Students (CFS). The third (Type C) is an association, originally devised to include college members only but now contains some universities: the Ontario College Athletics Association (OCAA).

'Type A' bridges appear motivated by common interest in relatively generic concerns, such as student housing and campus security. 'Type B' bridges appear to be associations that support organizational isomorphism in the direction of the university model. Consider, for example, that as ambitious public colleges, such as Sheridan, Humber and Seneca, become increasingly involved in granting degrees and performing research (see Hicks et al, 2013), they are entering new terrain. Joining an association like

[136] This taxonomy of 'bridges' does not include one important type of cross-sector tie: joint university-college programs. A sizeable number of these exist across the province, yet they are not mediated by any particular association. See OUAC (2015) for a list.

CAUBO thus provides their staff with opportunities to learn from experienced counterparts. The association offers courses on 'Fundamentals of the Research Enterprise' and 'Understanding the University Context, Governance and Culture for Effective Administration' (CAUBO, 2014). Similarly, the CFS reflects how public colleges' shifting organizational identities (i.e. more university-like colleges) are encouraging them to interact with colleagues beyond their sector's traditional boundaries.

**Figure 9. Public Sectors (University/College) Network**




'Type C' bridges reverse these processes. Universities entering the OCAA are either (1) smaller, younger, lower-status institutions, such as Trent, Laurier and Lakehead or (2) smaller appendages to larger organizations, such as UTM. The fact that the OCAA

is open to low-status organizations from other sectors serves as a 'flag' of sorts. Brint et al. (2006) argue that, in areas where PSE administrators are most satisfied with their status, this type of 'crossing over' is unlikely (p. 246). In such areas, incumbents will resist sharing the benefits of these network locations (also see Lifschitz, Sauder & Stevens, 2014 on network closure). The lack of exclusivity within the OCAA, relative to other associations, reflects one of two things: either (1) the OCAA does not bestow a degree of prestige that would lead member organizations to become protective or (2) that the status of 'cross-overs' is higher than that of incumbents, and thus, will not dilute the benefits of membership[137].

### *Private Religious University (PRU) sector*

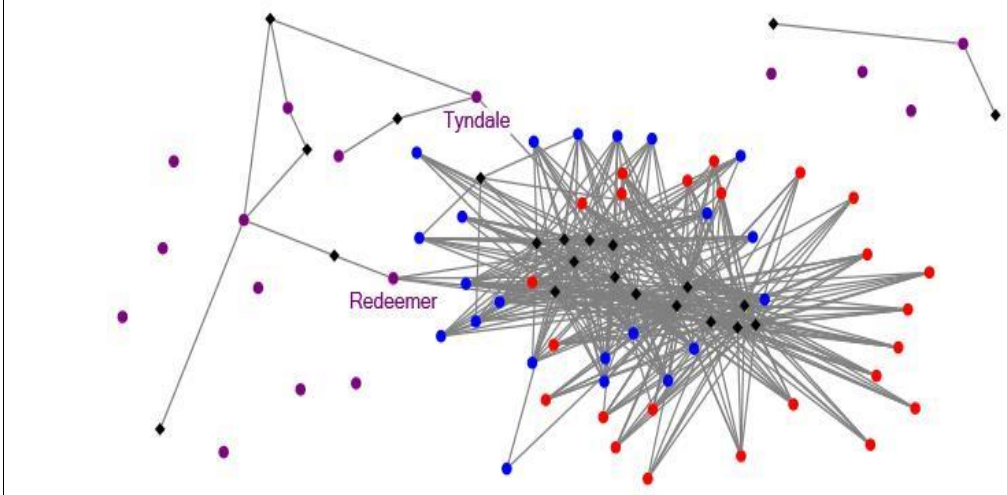
The PRU sector exhibits substantially less general inter-connectivity than its public counterparts. It has few signs of sector-level embeddedness, with no central association, such as the COU or Colleges Ontario, representing the interests of the entire organizational sub-population. A small cluster (3) of organizations advertise affiliations with the Association for Biblical Higher Education, but such link does not seem to provide them with any regular contact, such as through seminars, workshops or strategic discussions, but instead appears to mainly provide accreditation.

The PRU sector also lacks substantive ties with its public counterparts. Only Redeemer and Tyndale are linked to public sector associations through the Ontario University Registrars Association. Redeemer also shares ties with the Canadian

[137] It is important to note that these ties have also been encouraged by the provincial government since the turn of the century. For example, the provincial government has provided additional financial resources for collaborative nursing programs between public universities and colleges (see COU, 2010).

Association of University Business Officers (CAUBO), Ontario Association of College and University Security Administrators (OACUSA) as well as the Ontario College Athletic Association (OCAA). These connections may reflect how both of these organizations have recently become isomorphic with public universities, hiring formally credentialed instructors, providing secular degrees, conducting some research and adopting similar physical facilities (see Chapter 6). The rest of this sector lacks common PSE associations, choosing instead to develop relationships with religious actors[138], such as the Pentecostal Assemblies of Canada (POAC).

**Figure 10. Public-PRU Network[139]**




[138] These actors are 'obscure' within the context of secular higher education, yet are key players within the religious sector. Hence, they may have sparse connections with higher education, but denser ties to the religious sector.
[139] Public Universities (Blue), Public Colleges (Red)

The minimal degree of interaction across this sector is noteworthy given the small size of its organizational population. Based on Uzzi & Gillepsie (2002), one would expect a higher degree of interaction and even embeddedness. The relative absence of such links in this sector could reflect several factors. First, competition between the parent religious bodies of PRUs could stifle collaboration. In this sector, we tend to find ties to religious groups that are fundamentally at odds with each other with respects to the interpretation of Holy Scripture, including Orthodox Jewish sects and a range of Christian denominations such as Baptists, Pentecostals and Reformed Churches. Linkages to these parent bodies may impede interactions between PRUs. There is also a functional element to the lack of multiplexity that exists between organizations in this sector. PRUs in Ontario are, with few exceptions, relatively specialized organizations. Hence, it is difficult for them to interact in ways similar to public universities or colleges (through athletics, student unions etc.) when they lack the required components. Redeemer, for example, was given no choice to exit the sector and join the OCAA in order to engage in athletic competition[140].

[140] The network structure of this sector stands in great contrast to that of its American counterpart. There, we see that there are numerous religious PSE organizations that have willingly banded together. For example, the Association of Catholic Colleges and Universities (ACCU), a voluntary entity founded in 1899, has a membership of 197 PSE organizations. It represents approximately 90% of all accredited catholic PSE organizations in that country (ACCU, 2014). Similarly, the Council for Christian Colleges & Universities (CCCU), a voluntary entity established in 1976, represents 120 organizations in the United States. The American Association of Christian Colleges and Seminaries (AACCS) also brings together a small group of 16 Baptist PSE organizations that identify "with the historic Christian fundamentalist tradition" (AACCS, 2014). In each of these cases, PSE organizations with religious affiliations to similar sources (Catholic/Baptist/Christian churches) have banded together to form network clusters similar to those observed in the Ontario public PSE sectors[140].The more developed network structure of the American religiously affiliated PSE sector is likely attributable to a number of factors that distinguish it from its Ontarian counterpart. For starters, the older age of the American system has likely afforded organizations within this sector more time to 'seek' each other out and establish relationships. Beyond time, there are simply more organizations within this niche in the United States. With hundreds of religiously affiliated

### *Private Career College (PCC) sector*

The PCC sector also has very different network patterns than those in the public sectors. It too lacks networks that span the entire sector, and instead has only pockets of inter-connectivity and embeddedness. The first pocket is anchored by the central provincial association, Career Colleges Ontario (CCO), established in 1973 to ensure that "career colleges have a voice with the Ontario provincial government" (CCO, 2014). This association has a membership of only 280 out of 420 (66%) total registered PCCs within the province (Pizarro Milian & Hicks, 2014). A large group of Ontario PCCs also belong to a broader association, the National Association of Career Colleges (NACC), established in 1896 to represent the interests of career colleges at a federal level, much like the AUCC or the ACCC in the public sectors. Both of these central associations run annual meetings that invite representatives from member colleges to "discuss industry issues", "see interesting presentations from experts", "network with colleagues, sponsors and exhibitors" (NACC, 2014). Both of these associations have relatively low *network concentration,* given the absence of many eligible organizations. However, these central associations appear to engage in activities that hint at the presence of *multiplexity*.

Beyond these central clusters, the PCC sector also has a series of smaller clusters of organizations who have willingly banded together. This occurs mainly within specific program areas. Interestingly many of these PCCs do not identify as being colleges in the traditional sense. As one administrator at a registered truck driving training school

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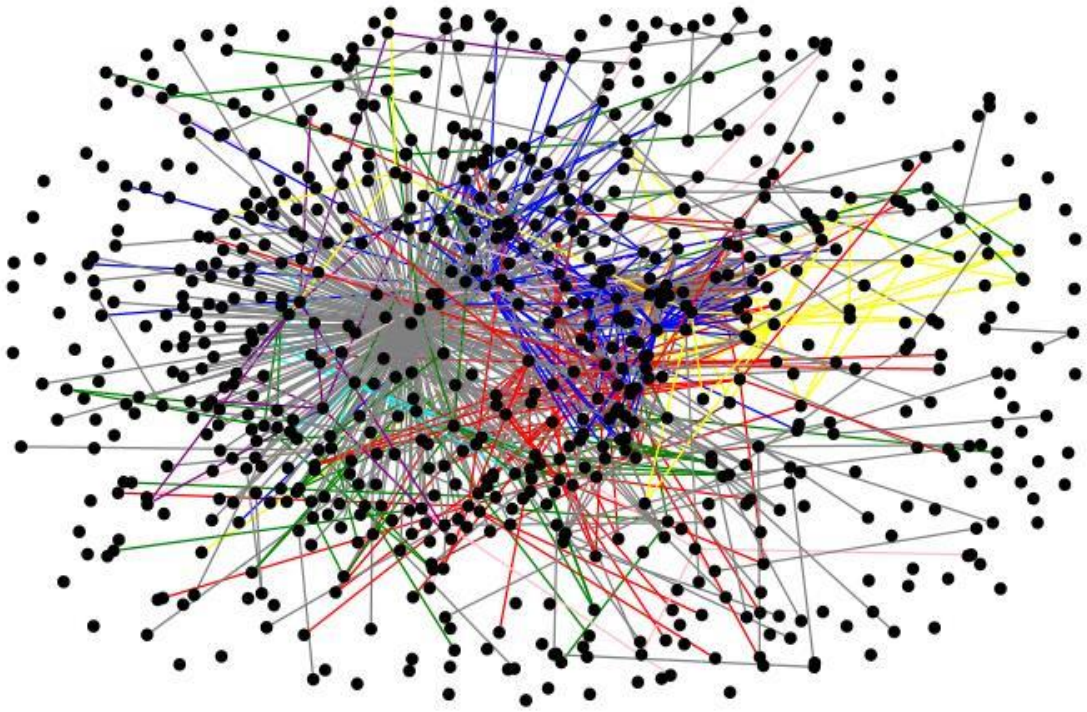
organizations scattered across this nation, each member has a high probability of finding peers that adhere to a similar interpretation of the gospel, no matter how obscure or radical it might be, as evidenced by the AACCS. Within the context of Ontario, the limited age and size of the sector severely limits both of these processes.

explained after being asked why his organizations was not a member of Career Colleges Ontario (CCO): “Well, that's a good question. *We are not really a college*. We offer truck driving instruction and training. So, we don't really fit the description” (Interview Data). Given this identity, they have little incentive to invest resources and time into central associations which, to them, appear to be representing another organizational type.

**Figure 11. PCC Sector Network Map**[141]



Many administrators in these PCCs have chosen to develop their own program-specific associations. Among truck driver trainers, for example, administrators created the Truck Training Schools Association of Ontario (TTSAO), a voluntary association that

[141] In this graph, ties are colour coded. Grey ties are ties to generic associations, those not associated with specific program areas. Hence, the cluster on the left hand side represents the OACC. The NACC was not mapped given that membership in such association is automatic once one pays membership fees for the NACC. Other colours represent IT associations (blue), transportation (red), health (green), Montessori teaching programs (purple), trades (yellow) and beauty (pink).

represents 30 schools (TTSAO, 2014). The TTSAO (2014a) was founded by its members principally for the purposes of establishing minimum quality standards in truck driver training across Ontario. An administrator at a well-known school, corroborates this narrative, suggesting that one of the primary goals of the association is to "set quality standards for driver certification, training and testing" (Interview Data). The association also serves as a respected *de facto* voice of truck driver training-providers within the province, actively engaging with policymakers at both the MTCU and Ministry of Transportation as an expert advisor. During the fall and winter of 2014, for example, members of the TTSAO met with provincial policymakers to advise on the need for mandatory entry-level driver training. TTSAO thus plays a role similar to advocacy associations in other sectors, such as the COU.

There are other program-specific associations similar to the TTSAO within the PCC sector. For example, the Ontario Hairstyling School Association, with a membership of 22 career colleges (OHSA, 2014), was established to create a "closer working relationship between member private career colleges and the government… creating closer liaisons with the trade and developing a closer working relationship among the member private career colleges". They provide professional training for instructors and "enrolment seminars for management" (OHSA, 2014a). The Welding Career Colleges of Ontario plays a similar role. This small entity, composed of 8 welding colleges, is "dedicated to producing quality welders" (WCC, 2014). It plays several technical functions for its members, including monitoring training standards and making institutional information, such as KPIs (graduate satisfaction, etc.) and course

information, accessible to prospective students.

### *The Benefits of Association Membership*

My interviews with PCC administrators clarified the many benefits of being involved with program-specific associations, and provide support to previously specified hypotheses (**H4:** PSE organizations will be stratified by the network structures to which they have access). As John explains, beyond simply playing a quality control function and influencing policy-making, membership in TTSAO also "has a lot to do with insurance". Documents from the TTSAO (2014b) website support this statement. In recent years, the association has lobbied industry so that "students who graduate with a TTSAO member school diploma are automatically given a two to three year Safe Driving record by some of Canada's leading commercial insurance carriers, thus making them the premier hiring choice for transportation companies covered by those insurers" (TTSAO, 2014B). As such, the TTSAO has been a valuable mechanism for members to give labour-market advantages for their graduates, and thus, add value to their credentials.

The TTSAO also provides other unique advantages for their members. As Tracy, an administrator at a southwestern Ontario truck driving school, explains:

> "…they (the TTSAO) set standards that are a little higher, not every school could become a TTSAO member. You have to get audited, you have to meet requirements, meet standards, that are a little more strict than the MTCU. Because they would like everything to be perfect. Every little thing". (Interview Data)

The strictness of the TTSAO is known to most individuals involved with the industry, ranging from school administrators, carriers, to the MTCU itself. As a result of this widespread reputation, Tracy candidly claimed: "if the Ministry sees you are a member

(of the TTSAO), they say 'Great! We don't have to worry too much about them. They already take care of themselves" (Interview Data). Patrick, an administrator at a northern Ontario PCC, explained a similar process, highlight how:

> "It's (joining the TTSAO) also a way to establish yourself as one of the players. When people see you are a member it removes a lot of the doubt about you. The TTSAO screens their own, so it's like extra insurance. It's not a PTDI or any of that, but it sets you apart. Especially with the Ministry, *I think they lift their foot a bit when they see you are TTSAO*. They see you are serious." (Interview Data)

Membership in the TTSAO may shield truck driver training schools from extensive scrutiny from the Ministry, a process akin to the 'logic of confidence' cited by both New Institutionalists (Meyer & Rowan, 1977) and credentialists (Brown, 2001) within the sociology of education. By this line of reasoning, membership can dissuade external entities from questioning the competence of credentialed actors, leaving such questions to bodies like the TTSAO, whose executive board is composed primarily of administrators from the very schools which it oversees. Hence, there is a circular dynamic by which truck driving school administrators essentially legitimate themselves.

Asides from serving the two functions outlined above, the TTSAO plays an additional role. As three administrators highlighted,

> *It gives you access to a really smart and dedicated group of people who have been around the industry for years*. It is a good place if you are just starting out. If I have a question, or an idea, or if you come across a problem, *I pick my phone up and call X or Y* (names of individuals excluded) and get their take on it. It is really helpful. (Denise, Interview Data)

> The TTSAO is very important for truck training schools. We weren't members, like two years ago. But then, we decided to join for some benefits that you get. *One benefit is that we come together to discuss all of the problems in the industry like legislation changes. We are on the top of everything that is going on in the industry,*

> *we share our experiences, we do consultations, have meetings.* From that perspective it's very beneficial. You can learn a lot from other people that have been in the industry for (sic) long time. (Tracey, Interview Data)

> You get to meet these people, who know what they are doing. *You can learn a thing or two from them, especially the older guys who have been in the business forever....* They got the reputation, the industry connections. If you can learn from them, it saves you the hassle of having to figure things out on your own... I check out what these people are doing from time to time. I speak to them at the meetings. It is a good way to get a feel for what is going on in the industry. (Kevin, Interview Data)

The TTSAO thus serves as a formal channel to exchange information between administrators. How valuable is this information? Kerry, an administrator at a leading school, explained: "You really can't put a price tag on it. You simply can't. I was very fortunate to get it when I started out... it helps you to learn from other people's experiences". These interviews suggest that the TTSAO reduced the costs of acquiring such information; without this association such niche-specific knowledge would be very difficult to acquire. As Kerry recalls:

> I was always *very aggressive* in finding out who the best institutions were and talking to the people who led these institutions, both in Canada and U.S, just continually trying to figure out how they did things and trying to make my own business better.

Membership in the TTSAO thus serves as a short-cut, reducing this labour-intensive search for information and the costs associated with it. In its absence, individuals are forced to learn largely through trial and error. As administrators at two non-TTSAO schools explained when asked where they learned to run their business:

> Very expensive school of life! She taught me. You get fine(sic) today, fine(sic) tomorrow and you figure out you can't do this no more or you can't eat. You have to learn other way of doing things. You get smarter, you learn the crazy rules. (Vladimir, Interview Data)

> Myself, you know? Just from making mistakes. I do this and get a letter

> from the Ministry. I do that and the students complain. You just have to keep your eyes open to things around you so that you don't make the same mistakes twice. (Malvinder, Interview Data)

The TTSAO not only facilitates the exchange of information among its members, it also affords members *early access* to information. In the fall of 2014, with regulatory changes to entry-level driver training in the horizons, a school administrator connected to the TTSAO revealed that:

> …we have been kept 'up to date' by the Ministry with information, we have been able to provide feedback. So, these upcoming regulatory changes are something we have prepared for and been able to shape to a degree (Interview Data).

Membership in the TTSAO provides a unique market advantage, providing knowledge about upcoming regulations that allows members to plan ahead, to adjust internal structures and practises to seamlessly transition into new regulatory environments. Such information is not always greatly advantageous since TTSAO members tend to be higher-end competitors that operate well above mandated standards. As Tracey explained:

> I don't see it (the new regulations) changing how we do things. We have been a member of the TTSAO for some years now. We are going to keep following those guidelines, cause' these are little higher than the Ministry. So, it (the new regulations) won't affect us too much. I am not sure, because I don't see what they do. But, I imagine that other TTSAO schools will be in a similar position" (Interview Data).

Beyond central associations (NACC/CCO) and program-specific clusters such as the TTSAO, the rest of the PCC sector appears to operate in almost relative isolation. There are several compelling explanations for this network characteristic. One is that the development of inter-connectivity within the sector is severely hindered by the short life-span of its organizations. As mainly for-profit businesses, organizational deaths and births

occur frequently in response to routine market turbulence. Even existing networks, such as Career Colleges Ontario, have regular turnover in their membership. This changes the character of their ties, making few parallels in the relationships that exist between leaders at public universities with those among recently established career colleges.

Along with constant turnover, the highly competitive nature of the PCC sector, combined with a general lack of information about competitors, contributed to the isolation of younger and lesser known organizations. Interviews suggested much ill-will among TTSAO member schools. This hostility was particularly noticeable during discussions of non-registered schools, those that avoid provincial oversight by exploiting loopholes that allow them to remain unregistered. For instance, John noted: “You have to be careful when you speak about *competition*. The market is completely saturated... You have these places which are basically license mills. That's really the seedy, illegal part of truck driver training” (Interview Data). Mark also distanced his school from unregistered counterparts, noting that: “We don't really cross paths with them, they are fly-by-nights. It's a completely different market” (Interview Data). This behaviour contrasted that of more marginal schools, those registered with the Ministry but not members of the TTSAO. This second group tended to be more sympathetic toward non-registered counterparts, acknowledging their differences, but not being categorically dismissive of them.

> They are just trying to make a living, you know? Same as me or you. They are just people. A lot of them get a bad name but, really, they are just doing business. If people are willing to pay for their courses then what are they supposed to do? Say “no, I don't want to take your money?” Of course not. (Malvinder, Interview Data)

> They are business, I guess. I don't see big deal. They are cheaper type of school. You go, for couple hundred bucks and you get the training for that money. Not in nice truck like us, not in nice building. Maybe not by very good teacher. But is O.K., I think, if you have little money. You go there, you learn, you practise. End of day if you are bad driver, you are bad driver. If you are great driver, you are great driver. School doesn't change that, no matter how much money. (Vladimir, Interview Data)

This pattern of 'boundary-work' (Lamont & Molnar, 2002) resembles social psychological findings that attempts by high-status groups (Brewer & Brown, 1998; Sadanius & Pratto, 1999) to differentiate themselves often serve to "maintain and achieve superiority over an out-group on some dimension" (Tajfel & Turner, 1985, p. 16-17). TTSAO members draw clear hierarchical distinctions between them and others, while lower-status registered schools tend to be relatively more receptive to non-registered peers.

## Conclusion

The sectors of Ontario PSE each have very distinct network structures. The public university sector is by far the most inter-connected and embedded. Its organizations have interacted for a considerable amount of time for a variety of purposes. They strategize and lobby together and compete against each other in athletics. They have strong norms governing participation in similar types of associations like AUCC, COU, OUA, etc. An exception consists of a few elite research universities that are members of the U15. The public college sector has similar network structures for advocacy (Colleges Ontario) and athletic associations (OCAA). But these associations are younger and fewer in number, limiting the opportunity for embeddedness to develop through them.

Somewhat different dynamics exist in the private sectors. The PRU sector is far

smaller, and lacks almost any form of inter-organizational connectivity, as its schools operate in almost complete isolation. The PCC sector has a very vast organizational population, though only half of its organizations are linked through a weak central association. The rest are either huddled in program-specific network clusters or remain isolated. The latter are often treated with a great deal of suspicion, if not hostility, by their peers. This, again, stands in stark contrast to the embeddedness, collaboration and apparent collegiality that characterizes the public university sector.

### *Network Structures and Inequality*

These network structures can be highly consequential, bringing some benefits to their members, providing information and shields from intense external scrutiny, and through certification, bringing labour market advantages to their graduates. Further, network structures can stratify organizations across and within sectors in two distinct ways. First there is the basic *insider/outsider distinction*. Isolates have a competitive disadvantage in that they are more likely to be scrutinized by external bodies such as the Ministry. Their credentials do not grant automatic currency to their graduates. They face a tougher task when attempting to acquire niche-specific information. Secondly, there is also a *hierarchy among associations*. Theoretically, if one assumes the strength of an association is proportional to the power of its members, it follows that associations like COU or Colleges Ontario, composed of large organizations, would wield more power than one with smaller and weaker members, like the TTSAO or Career Colleges Ontario.

Empirically, ties to such bodies can bring legitimacy to an organization. When I asked truck driving school administrators what quality clues one should look for when

visiting a truck driving school, Mark suggested:

> One of the most important things is the certificate of registration. So, you want to see that a school is registered by the *provincial government.* That means that they follow the standards set by them. You would also want to keep a look out for anything promoting either the *TTSAO or PTDI*. The PTDI is the highest certification in North America. One of our programs is accredited by them. *That is the best one, then you would have TTSAO as number two* (Interview Data, my emphasis).

Kevin, an administrator at a school in southwestern Ontario noted a similar logic:

> Obviously make sure they are registered with the Ministry. Make sure of that. Ain't no way they are worth a buck if they are unregistered. I don't care how cheap it is. You get what you pay for. If they got a TTSAO or PTDI backing you got that extra security. They are probably the best you are going to find. Especially PTDI. Not too many schools have this one though. (Interview Data)

These interviews suggest that having ties with the MTCU, TTSAO and PTDI help an organization appear to have perceptions ‘quality’. Among the PCCs, MTCU was the base-line, with the TTSAO and PTI providing sequential steps up the ladder. Similar relationships exist in other sectors. Within the public university sector, for example, the U15 provides a 'cachet' for its members beyond that conferred by the AUCC or COU.

There is also a correspondence between network structures and organizational environments. Public universities operate within an institutional environment with powerful norms dictating organizational behaviour and affiliations. Corresponding with that environment was a network cluster composed of highly embedded and relatively uniform tie sets across organizations. All public universities belonged to the COU and most other associations, with the exception of the young Dominican College and OCAD. At the other end of the continuum, the PCC sector has a very competitive market environment, which led to a unique network structure consisting of pockets of inter-

connectivity and embeddedness. Many PCCs were outside such pockets, possessing no discernible association ties. These differences suggest that different organizational environments produce different kinds of network structures.

The idea that market environments produce greater inequality is supported by research in sociology of education. Davies & Zarifa (2012), for example, found that the private PSE sector in the United States has a greater degree of organizational inequality in financial resources than its public counterpart, and that the more market-driven American system is more stratified than Canada's more government influenced system (also see Dill, 2005). Beyond education, Cornelius & Weder (1996) found that shifts towards more market driven economies often produced greater inequality within nations. My findings also suggest that market environments produce more network inequality among organizations.

# Chapter 8

## Organizational Symbols

This chapter explores an additional mechanism that reinforces status-hierarchies: organizational symbols. In order to carry out said analysis, I employ a visual inspection of the content of all institutional websites within Ontario PSE. To my knowledge, no one has conducted a similar examination of how PSE organizations across an entire system leverage symbolic resources to communicate legitimacy to external constituents. My starting rationale is that mature organizations should have a distinct advantage when communicating their quality, given that they have had the time to develop powerful organizational symbols which signal legitimacy (e.g., Clark, 1971; 1972; 1983; Meyer, 1977). Younger institutions, on the other hand, with shorter histories and weaker symbols, need to adopt alternative, compensatory signaling strategies, such as utilizing performance indicators, testimonials and statistics, as well as affiliations. This investigation assumes that privileged students seek not only higher credential tiers (Raferty & Hout, 1994) and more prestigious institutions (Lucas, 2001), but also, those possessing storied organizational symbols.

## Methodological Recap

During the summer of 2013, I visually examined and recorded notes on 16 different website characteristics for every PSE organization in Ontario (see chapter 4 for more detail). This included a variety of advertising strategies, including specialties in school names, listing of affiliations (see also chapter 6), as well as student outcome data, logos, trademarks, testimonials, student pictures and a variety of other ancillary visuals. I

also took a variety of screenshots to help illustrate my findings. Content analysis of this sort is commonly used to analyze online promotional material in PSE (Gordon & Berhow, 2009; Pegoraro, 2009; Saichaie, 2011; Yoo & Jin, 2004). Like other research on university imagery and corporatization (Holloway & Holloway, 2005; Baruch, 2006; Drori & Delmestri & Oberg, 2013), I aimed to explore how organizational sub-populations across Ontario PSE signal legitimacy to potential members.

## Theoretical Recap

Old institutionalists (1970; 1971; 1972; 1983) argue that experiencing conflict can be beneficial for organizations. Through conflict, organizations can develop "sagas" that elongate emotional highs, rendering them accessible to future organizational members. Developing alongside these sagas are powerful organizational symbols. These symbols could come in different forms, including not only official representations of an organization (e.g. emblem, coat of arms), but also, objects implicitly associated with it (see Berg, 1986 for a discussion of symbolic resources). As Clark (1972) noted, once associated with an illustrious event in the organization's past, "even a patch of side-walk or a coffee room" could come to "evoke emotion among the believers" (Clark, 1972 p. 181).

In chapter 2, I argued that PSE administrators employ a variety of strategies to develop powerful organizational symbols. Sometimes they erect expensive physical structures (e.g. statues) to provide a symbol around which organizational identities and "student pride" can coalesce. When adopting this strategy, younger PSE organizations are generally at a disadvantage. They lack both the time and resources required to develop

similar stocks of symbols. While older PSE organizations can regularly draw on their established symbols, younger organizations might need to rely primarily on technical performance indicators, such as statistics and testimonials, to communicate their legitimacy to important constituents. These ideas support two specific hypotheses about the signalling strategies of PSE organizations:

> **H5:** Older institutions will adopt branding strategies that utilize traditional symbols.
>
> **H6:** Newer institutions will utilize performance indicators, such as testimonials and statistics, to broadcast their quality.

## Symbols across the Ontario PSE System

### *Older Public Universities*

One symbol that public universities in Ontario, especially older ones, regularly use is the traditional coat of arms[142]. These symbols are regularly placed on official documents (brochures, diplomas, letterheads, etc.), merchandise (pens, coffee mugs, etc.), websites and athletic uniforms. They are a visual "manifestation of the organization" devised to "produce a certain image", convey a certain message and "create certain impressions" (Baruch, 2006, p. 3). Generally, they are "intended to symbolise the antiquity of a university - as it is a commonly held view that the older a university is… the more they would gain in respect and authority" (Holloway & Holloway, 2005, p. 36). This logic has been observed across several jurisdictions, including New Zealand (Potts, 2003), Australia (Holloway & Holloway, 2005) and the United Kingdom (Baruch, 2006).

[142] Universities are far from original in their usage of coats of arms. The history of this particular symbol dates back to the medieval ages, when heavily armored knights would adorn their shields with particular insignias in order to be identifiable by those around them. Coats of Arms then went on to be used to represent particular families, organizations and towns.

| Figure 12. Traditional University Logos | |
|---|---|
| **McMaster**[143] | **Toronto**[144] |
|  |   |
| **Queen's**[145] | **RMC**[146] |
|   |   |

McMaster University's coat of arms is an instructive example of this attempt to convey 'antiquity' or old age to observers. The eagle on its shield represents the "heavenly vision", being able stare directly into the mid-day sun (McMaster University, n.d.). This eagle, along with a cross on its chest "identifies this vision as Christian in inspiration" (McMaster University, n.d.). Both of these symbols reflect the conditions of

[143] Image retrieved from http://www.mcmaster.ca/
[144] Image retrieved from http://www.math.toronto.edu/lshorser/WIT.html
[145] In Queen's coat of arms, the cross of St. Andrew, combined with the open book, represent the traditional bond between the university and its Scottish counterparts. Other elements also reflect the British ties of the institution, including the red rose for England, shamrock for Ireland and thistle for Scotland. (see: queensu.ca/encyclopedia/c/coatofarms.html)
[146] The armoured fist and crossed swords on RMC's coat of arms represents the training of military officers. The grenades stand for the technical branches of the army (artillery and engineers). Meanwhile, the ladder represents the use of RMC education for success in the civic realm.
(see: rmcclubkingston.com/History%20Articles/Coat-of-Arms%20Notes%202010.pdf)

McMaster's establishment during the 1800s. This kind of antiquated symbolism is the *normative standard* among older public universities in the province.

## *Organizational Change & Symbols*

Older public universities in Ontario, as elsewhere (Baruch, 2006; Drori, Delmestri & Oberg, 2013), have modified their coats of arms over the years to reflect organizational changes, such as the severing of denominational ties, and to meet changing consumer preferences for "clean lines, large bold fonts, minimal (but bold) colours and/or stylised symbols" (Holloway & Holloway, 2005, p. 36). The most visible recent example of such rebranding in the province is that of Western University, previously known as the University of Western Ontario. In cases like this, institutions exercise a great deal of care to balance countervailing pressures, being sensitive to demands for a modern 'look' while ensuring that the new coat of arms remains a *legitimate* symbol. In Western's case, the institution created continuity in its symbols by retaining the colours (white/purple) and other components of their original coat of arms. As stated in institutional documents:

> "The crown on the lion refers to the Rev. Alfred Peache (Western's second chancellor, after Bishop Isaac Hellmuth). If you had a complete lion, with no crown and no ermine spots, (the coat of arms) becomes more generic and you lose the reference"[147].

In other words, disposing of these elements of the traditional coat of arms would have rendered the new version generic or *illegitimate* in the eyes of stakeholders.

[147] See communications.uwo.ca/western_news/stories/2012/January/alumnus_helps_guide_historic_changes.html

| **Figure 13. Western Logos** | |
|---|---|
| **New** | **Traditional** |
|   |   |

When older public universities stray too far from tradition, and attempt to undergo fundamental re-branding, they inevitably face resistance. This occurs given that current and previous organizational members, as suggested by both Collins (2004) and Clark (1972), become emotionally attached to symbols over time. When radical change to organizational symbols is proposed, individuals "pumped up" with emotional energy might defend them from the "disrespect of outsiders, and even more, of renegade insiders" (Collins, 2004, p. 49). Here, the University of Waterloo's attempt to rebrand in 2009 is as an apt example. The institution attempted to replace its traditional logo with a futuristic-looking 'W' that was meant to represent the unconventional, innovative and creative character of the university, something that administrators believed strategically differentiated it from competitors.

| **Figure 14. Waterloo Logos** | |
|---|---|
| **'Leaked'** | **Traditional** |
|   |   |

Waterloo students and alumni, although agreeing that the institution was innovative and unconventional, strongly opposed the new university logo, arguing that the new logo did not evoke the same *feeling* as its predecessor. As one alumni explained in a letter to the university's alumni magazine:

> I went to school at Waterloo, I work at Waterloo, and I have a *strong attachment* to the institution and it's values... Yes we are all those things: creative, unconventional as universities go, and all the other attributes which have been described...I feel a great *fondness and respect* for the crest (old logo) and what it represents.... *Does the W* (the new logo) *give me the same feelings, unfortunately not. I am entirely ambivalent to it.* I don't understand what it is meant to represent.. (my emphasis)

The new logo appeared to lead some alumni to experience forms of emotional or psychological distress, feeling 'betrayed' and 'embarrassed' that the institution would even consider adopt this alternative image. As some vividly explained in other letters to the school's alumni magazine:

> The proposed new logo was just brought to my attention. I have to say that in seeing this logo, I am *embarrassed* to say that I ever attended Waterloo. (my emphasis)

> I am a recent graduate of Waterloo (B.A. '05 and M.A '07), *and I too felt betrayed and* disconnected with the leaked logo proposal. If the logo gets the go-ahead, It's almost like I don't belong--like returning to a home you once lived in, but has been sold, and renovated in some ticky tacky sort of fashion. The new logo lacks character, it's less regal… (my emphasis)
>
> Since the unveiling of the logo I have personally experienced the logo, and UW, being openly *mocked* by alumni from other universities, by my staff and by former co-workers. (my emphasis)

These students and alumni saw the new logo as not legitimate for a university of Waterloo's stature, deeming its style as more in line with lower-status institutions. As several alumni stated in a letter to the alumni magazine:

> It (the new logo) places us in a league with other prestigious (sarcasm) institutes like TRIOS Training College, and Best Buys' "Geek Squad"... it reeks of an amateur attempt to attract attention by using "flash", and turns it's back on "substance".”
>
> If you (the administration) insist on changing the U of Waterloo logo to this *"community college" or "ITT Tech" calibre icon*, then I hope you will be successful based on support from 2010-year and later alumni only, because I and many I've talked to absolutely hate the proposed new logo, or the idea of changing the logo period. (my emphasis)
>
> The new logo with the big W, does not reflect *what I think of as a university logo*. Someone said it *looked like a welding school*, which immediately struck a chord in my mind. (my emphasis)

This kind of conflict at Waterloo is far from unique. Holloway & Holloway (2005) note that the University of Birmingham also had a public dispute over changes to its century old coat of arms. The university employed a consultancy firm in the early 2000s to transform its imagery, but in response, the new logo was met with a series of protests. As in Waterloo, complaints centred on the “loss of an identifiable ‘university’ image”; “that the new logo makes the university look like a polytechnic”; and that students wanted the institution viewed as a “real redbrick university as opposed to a former polytechnic”

(Holloway & Holloway, 2005, p. 37).

These protests suggest that universities need to 'look' a certain way to students, which often means emulating or becoming 'isomorphic' (DiMaggio & Powell, 1983) with prestigious leaders in the field, particularly elite research-intensive institutions, rather than appearing to carve out an unconventional image.

> I would like a branding effort that attempts to invoke the *same feelings* that other world-class universities evoke; *Waterloo should be looking to be considered in the same class as Stanford, MIT, Cornell, Oxford, Harvard, Yale*. A quick review of those websites is very illuminating; almost all of the best universities sport a modern version of their coat of arms as their logo or no logo at all. *Waterloo is making a striking departure from what defines world class*.
>
> A degree from Waterloo (especially in the Math and Engineering fields) is worth something and to cheapen it using such cheap graphics while ignoring the proud traditions of the University is baffling. *Do you see other bastions of academia like Toronto, Harvard, Stanford changing their logo's to "better tell their story"*?

An interesting implication of the discussion is that while new institutionalism (e.g. Meyer & Rowan, 1977) has traditionally emphasized the cognitive dimensions of legitimacy, suggesting institutionalized forms are adopted because "other types of behaviour are inconceivable" (Scott, 2001, p. 57), emotions also appear to play a role. When organizations attempt to discard emotionally charged symbols and structures, as observed in Waterloo, organizational members mobilize to vigorously counter such changes, not so much because alternatives are 'inconceivable', but rather, that they generate emotional distress, and/or threaten institutional and individual status. Emotions appear to fuel fights to protect both the honour and status of symbols. This logic is generally in line with the inhabited institutions tradition which has unearthed how emotion or turmoil often

coincides with organizational change (see Hallet, 2010; Hallet & Ventresca, 2006).

### *Younger Public Universities*

Other institutional types in PSE portray themselves differently. Younger public universities tend to adopt branding strategies that are less regal or conservative-looking, and instead appear more modern yet blander. In the case of UOIT, for example, the coat of arms is solid-blue, simply containing the letter 'O'. In the case of the Laurentian, most of the original coat of arms were stripped in favour of a simple white tree. Similar organizational symbols have been adopted by younger universities. At York, for example, the letter 'U' is placed on a red square. At Nipissing, two gridlocked 'N' letters are used. Guelph and Ryerson use limited or no imagery in their branding strategies. Instead, the names of those institutions are featured exclusively in promotional material. These younger public universities correspond with what Baruch (2006) labels the ‘1960s Universities’ in the U.K. whose logos were characterized by “simplicity, modern letters, sometimes the whole logo comprised only of letters, of the university name or its abbreviations” (p. 16). Baruch (2006) also found that these logos tended to adopt simpler color schemes, with the “typical shape including a single color, two at the most” (p. 17).

| **Figure 15. Unorthodox University Logos** | |
|---|---|
| **UOIT** | **Laurentian University** |
|   |  |
| **Nipissing University** | **York University** |
|  |   |
| **Guelph University** | **Ryerson University** |
|   |   |

*Public Colleges & Private Career Colleges*

Across the public college sector, traditional-looking coats of arms are almost completely absent from institutional websites, even though many organizations actually

possess them.[148] Asides from St. Clair College, which uses a small, almost unnoticeable shield on the bottom-right corner of its website, and Durham College, which adopts a plain green and white shield, the rest of the sector embraces an alternative branding strategy. Public colleges, like younger public universities, favour more corporate-like imagery. For example, Mohawk places three vertical stripes before its name[149], Humber adopts a futuristic looking letter 'H' and Sheridan places a yellow diamond-like figure above its name.[150] The logic of this approach is to provide a simple yet unique design that individuals can easily remember, as opposed to attempting to look 'regal' or signalling commitment to lofty principles or institutional founders.

**Figure 16. Public College Logos**

| Mohawk College[151] | Humber College[152] | Sheridan College[153] |
|---|---|---|
|  |  |  |

Private career colleges (PCC) are similar to public colleges with respect to their branding strategies. They put minimal effort into becoming isomorphic with institutional leaders within PSE. Instead, their logos look similar to those representing for-profit

[148] Mohawk College, for example, has a coat of arms, but it is not visible on its home page nor any other easily accessible part of its website. I only became aware of it through its Wikipedia page.
[149] The institution itself admits that this will likely come off as a "modern, stylized letter 'M' for Mohawk' – see http://www.mohawkcollege.ca/Assets/Logos/MohawkCollegeBrandGuidelines.pdf
[150] At the time of writing it had not begun re-branding as a university.
[151] Image retrieved from http://www.mohawkcollege.ca/
[152] Image retrieved from http://www.humber.ca/
[153] Image retrieved from https://www.sheridancollege.ca/

companies. This is to be expected since most PCCs *are* for-profit (Pizarro Milian & Hicks, 2014). What sets the branding strategy of a large group (75%) of PCCs apart from public colleges is the signalling of their area of specialization. For example, some PCC names include text such as "Transportation Specialists", "Hairstyling School" or "College of Health Sciences, Business & Technology". This signalling of specialization includes not only detailed names, but also, graphics associated with particular program areas. For example, 5th Wheel Training, Crossroads Training Academy and the Ontario Truck Driving School all incorporate transport trucks into their logos. The same strategy is evident among welding (Weldtech, A.P.R Welding Academy, etc.) and hair schools (Modern College, Academy of Hair Passion, etc.). Each incorporates characters and objects (welders / hair, scissors) from their industries into their logos.[154]

**Figure 17. PCC Logos**

| 5th WTI[155] | CTA[156] | OTDS[157] |
|---|---|---|
| 5th Wheel™ TRAINING INSTITUTE | CROSSROADS Truck Training Academy A division of Crossroads Training Academy Ltd. | ONTARIO Truck Driving School LONDON • WINDSOR • CHATHAM • SARNIA • NOTL www.otds.com |

[154] It is interesting to note that this type of behaviour is virtually absent in the public university sector, with the exceptions being newer institutions like OCAD and UOIT. It is also virtually absent in the public college sector, a surprising occurrence given that most institutions are not simply 'colleges', but rather, 'colleges of applied arts and technology' (CAATs) or 'institutes of technology and advanced learning' (ITALs). In the public college sector, organizations mask their full institutional names

[155] Image retrieved from http://5thwheeltraining.com/

[156] Image retrieved from http://www.crossroadstrainingacademy.com/

[157] Image retrieved from http://www.otds.co/

### *Private Religious Universities*

Private religious universities (PRU) have somewhat mixed images. A select group that includes Redeemer and Tyndale embrace traditional coats of arms in their branding strategy. This branding strategy coincides with broader attempts to emulate the traditional university form, providing programming in a wide number of disciplines. Beyond this select few, branding strategies tend to revolve around religious imagery, using symbols like a cross (Emmanuel Bible College; Baptist Bible College), tree (Heritage College), dove (Institute for Christian Studies) or flame (Master's College; Canadian Reformed Churches Theological Seminary). These images fit their primary market niche: individuals seeking religious education. These institutions, like PCCs, also tend to make their religious affiliation and form (university, seminary, etc.) explicitly clear in their names.

**Figure 18. Religious University Logos**

| Redeemer[158] | Baptist Bible College[159] | [160]ICS |
|---|---|---|
|  |   |  |

## Institutional Mottoes

Like coats of arms, institutional ‘mottoes’ also serve as a unique representations of

[158] Image retrieved from https://twitter.com/redeemeruc
[159] Image retrieved from http://www.baptistbiblecollegecanada.org/
[160] Image retrieved from http://www.icscanada.edu/

PSE organizations (see Gora, 2010; Wan Ling, 2014). However, virtually no PSE organization in Ontario continues to use their original motto in promotional materials. Even older public universities that continue to use coats of arms on their websites (i.e. Toronto) have generally removed their mottoes or rendered them so small as to be illegible. New catch phrases, like McMaster's "inspiring innovation and discovery" line, have taken their place in outward facing materials, but these are largely 'transient' slogans. Every decade sees the emergence of a new 'jingle' that the university splashes on all of its materials. Institutional mottoes, on the other hand, have proven to be durable. They remain engraved on physical objects throughout campuses, serving as 'relics' that physically outlive their transient counterparts. Like ivy-covered stone buildings adorned with Gothic stone-figures, a Latin or Greek[161] phrase signals a storied past to students and faculty, and provide an "air about the place" (Clark, 1972, p. 6). As Gora (2010) notes:

> Latin does impress the impressionable, and let's face it; there are a lot of us out there. Used judiciously, and steering carefully between the nerdy-pretentious and try-hard, Latin has enormous seductive potential… So powerful is the symbolic imagery that only a few emissions can intoxicate the unsuspecting subject… As temples of higher learning, universities are particularly partial to Latin phraseology. The more obscure the phrase, the better… Latin froth can also convey a potent image of lofty intellectualism that emboldens vacuous claims to 'higher education' and 'excellence'. (p. 77).

Beyond serving as a ploy to impress the impressionable, Wan Ling (2014) notes that the continued use of dead languages in university mottos, long past their use as primary language spoken by academics, suggests an "unspoken perception"[162] about the way

[161] The ancient Latin and Greek languages have long been associated with high-status across different geographical regions. Cookson & Persell (1985) note that, within the British context, the study of "Greek and Latin and the knowledge of French define an upper-class education" (p. 294).
[162] Here, it is clear that Wan Ling (2014) is referring to institutionalized practises, ala Meyer & Rowan

universities should "present themselves, a code which exists, though that code can on occasion be broken in order to make a point perhaps felt to be of greater ideological importance, as when, for example, at least six out of the nine Welsh universities opt for Welsh mottoes in order to make a nationalist or political point" (p. 71).

McMaster's original institutional motto can be seen in Alumni Memorial Hall. It is inscribed on a coat of arms hanging over a fireplace in an area where faculty members and visiting speakers often lounge, in the council chambers where senate meetings take place to make important decisions, and on class composites that hang on department walls. Original mottoes are also physically scattered throughout other public universities. At Queen's and Ottawa, mottos are visible in large renditions of each school's original coat of arms in a hall where convocation and other ceremonies take place. In these and many other locations across the public university sector, these mottoes serve as a reminder of the illustrious past traditions of the institution, possessing an 'allure' and positive impression. While catchy phrases about 'innovation' and 'creativity' come and go over the decades, these mottoes will remain physically present on the walls of older universities long after.

**Table 26. Public University Mottoes**

| **Institution** | **Motto** |
|---|---|
| McMaster | "all things coherent in Christ" (ΤΑ·ΠΑΝΤΑ·ΕΝ·ΧΡΙΣΤΩΙ·) |
| Toronto | "as a tree through the ages" (Velut arbor ævo) |
| Queen's | "wisdom and knowledge shall be the stability in thy times" (Sapientia et Doctrina Stabilitas) |
| Western | "truth and usefulness" (Veritas et Utilitas) |
| Windsor | "goodness, discipline, knowledge" (Bonitatem, disciplinam,scientiam) |
| Ottawa | "God is the lord of knowledge" (Deus scientiarum Dominus est) |

(1977).

| | |
|---|---|
| Waterloo | “in harmony with truth” (Concordia cum veritate) |
| York | “the way must be tried” (Tentanda via) |
| Carleton | “ours the eternal task” |
| Lakehead | “achievement through effort” (Ad Augusta per Angusta) |
| Laurentian | “send forth they light and thy truth” (Emitte lucem et veritatem) |
| Nipissing | “integrity” (Integritas) |
| RMC | “truth, duty, valour” |
| Ryerson | “with mind and hand” (Mente et Artificio) |
| Trent | “now I know in part” (nunc cognosco ex parte) |
| Guelph | “to learn the wisdom of reality” (Rerum cognoscere causas) |
| UOIT | “by thinking and knowing we shall lead” (Cogitando et Agendo, Decemus) |
| Laurier | “truth must be tried” (Veritas Omnia Vincit) |
| OCAD | “imagination is everything” |

Mottoes across the rest of the PSE system offer insight into the stratification of methods of signalling legitimacy. Older institutions in the public university sector regularly make references to traditional wisdom and timeless values ('integrity', 'valour', etc.) or religious sayings ('all things cohere in Christ’, ‘God is the lord of knowledge'). Their specific content may matter less than their ritual citing, in ancient languages, of traditional wisdom. However, newer public universities like OCAD (imagination is everything) and UOIT (challenge, innovate, connect), stray from this norm.

**Table 27. Public College Mottoes**

| **Institution** | **Motto** |
|---|---|
| Niagara College | “applied dreams” |
| Seneca College | “Seneca changes you” |
| St. Lawrence College | “hello future” |
| Sault College | “the education you want and more” |
| Mohawk College | “knowledge is the work of all” (Scentia Opus Omnium) |
| George Brown College | “success at Brown” |
| Confederation College | “change your life through learning” |
| Fleming College | “let the deed show” |
| Humber College | “more for you” |

| | |
|---|---|
| Lambton College | “connect” |
| Northern College | “your college, your community” |
| Algonquin College | “your goals, your career, your college” |
| St. Clair College | “knowledge is yours” |
| Canadore College | “great things happen here” |
| Fanshawe College | “unlocking potential” |

Institutional mottos in the public college sector reveal vast differences from its public university counterpart. Most are written in modern English as opposed to an ancient language and guided by a more ‘consumer-oriented’ logic by which schools ‘sell’ themselves. Seneca will ‘change’ you; Sault has the education you want and ‘more’; at Canadore ‘great’ things happen. In these and other cases, the institution uses short ‘catch-phrases’[163] that evoke not longstanding scholarly traditions, but rather, of contemporary marketing strategies likely designed by consultants. They aim to attract enrolments, as opposed to bolstering an academic legacy.

PCC mottos are eerily similar to those of public colleges. Westervelt wants to let “change your life”; ABM offers an “education that gets you hired”; the Academy of Locksmithing states that “your success is our goal”. At Access Business College, “success is yours”; at Advanced Welding Techniques, you get “training for success”. Algonquin believes it is “the best direction for your career”. Allanti will give you “training from head to toe”. At Alpine, “the road to success awaits”. Business Education College is in the business of “empowering every individual to succeed”. Can-Weld states: “see what we can do for you”. In this sector, the consumer-oriented logic is pushed to the limits. Mottoes are very specific and applied references to success and individual transformation,

[163] Cambrian, Centennial, Durham, Georgian, Loyalist and Sheridan have no discernible motto.

most of which are economic in nature.

The PRU sector is less predictable. Not all of its institutions adopt mottos or slogans, and when they do, not all use religious references. Tyndale (“servants of Christ”), Redeemer (“discover all things in him”) and Heritage College (“equipping men and women for a life and ministry”) reflect their religious mandates. But other mottoes are somewhat surprising. Master's College and Seminary invites you to “invest in learning”, evoking a human capital logic. Emmanuel Bible College asks: “we do different, do you?” (a phrase also used by both Facebook and Value Village on their websites). Meanwhile, ICS claims to have “a tradition of enquiry” and a “spirit of engagement”.

*Summary*

Across Ontario’s four sectors there are clear differences in the types of mottos adopted by institutions. Older public universities tend to espouse lofty ideals ('valour', 'truth' etc.) that convey the ‘sanctity’, ‘purity’ or ‘virtue’ of the organization. The rest of the system behaves according to a more consumer-oriented logic in which mottos speak to an institution’s ability to change people and provide them with opportunities ('connect'). Different types of slogans coincide with types of institutional symbols. Greek and Latin phrases go in hand with detailed coats of arms, while catchy phrases about 'connecting' or 'success' go with corporate-styled imagery. Some branding strategies build on tradition, while others promise various economic ‘deliverables’.

## Compensatory Signalling Strategies in the PCC Sector

Institutions that lack powerful symbols, especially those in the PCC sector, adopt alternative strategies to signal their legitimacy. They use three distinct devices: statistics,

testimonials and affiliations. I discuss each below.

## *Statistics*

When data was collected for this project, PCCs were not required to post key performance indicators (KPI) or other statistics on their websites, as are public universities and colleges[164]. Those not OSAP approved were not even required to keep statistics on student satisfaction or graduate employment. Nonetheless, a small proportion (14%) of all PCCs reported statistics on their websites. Some cited graduate employment or graduation rates. Those providing training for regulated occupations (nursing, massage therapy, etc.) also advertised 'pass' rates on required licensing exams. The quotes below are representative across school websites.

> Our small class sizes and low student to instructor ratio ensures a highly personalized learning approach that has resulted in great success *with 95%+ placement rates for our graduates.* – Canadian Welding Skills
>
> Our success is measured by your success, we can boast a *98% successful graduation rate* – Cornwall Career College
>
> We currently have a greater than *90% success rate in graduate job placements* – Electrical College of Canada
>
> Pass rate for Massage students at 2013 provincial licensing examinations continues to be a success story! Since 2006, *98.4% of Academy graduates have passed provincial licensing examinations*. – International Academy of Massage
>
> ***90%** placement rate for our students*! – Liaison College, South Coast

## *Testimonials*

A more popular signal of quality in this sector was the use of student or alumni

[164] It is interesting to note that, although possessing such data, public colleges and universities did not incorporate them into advertising on their websites. They were often hidden a number of clicks away from their home page.

testimonials. Approximately 50% of all PCCs used this tactic. Three main types of testimonials stand out in my data. Type 1 highlights how skills and experience acquired through the PCC help the individual acquire employment.

> I decided on the Network and Internet Security Specialist diploma. During my practicum, *I was able to put the skills I learned at CDI to use and gain valuable experience in the field that lead to a position with my employer*. I am currently working as a Supporting Analyst with the federal government. I have a very rewarding career now doing what I love. I would absolutely recommend the program to anyone that wants a career in the IT field. – Alumni of CDI

In specific cases, these statements were accompanied by claims about how expediently employment was acquired after graduation and its hourly wage:

> I landed a sweet position with a great company within a week of finishing my course. I'm now making $20/hr. That's 2$ more per hr. than I was making at my last job after 7 years. – Alumni of Institute of Technical Trades

> I was able to successfully receive many interviews for jobs as a makeup artist, and was even employed within less than a month of graduating from the program, to the well-recognized Shoppers Drug Mart, as a cosmetician.- Alumni of Canadian Beauty College

The example below shows offers received by graduates of NewJob College over the span of a month, including details about their compensation, which are at or above Ontario's average wage (~$25)[165].

[165] These colleges proclaim these outcomes ; while most research shows that their earn below-average returns in the job-market.

**Figure 19. Screenshot of NewJob College website**[166]


Type 2 consisted of 'softer' student testimonials regarding the 'friendliness' of the PCCs staff, instructors and general school environment. The statements below are representative:

> Excellent and *friendly teacher*. I would recommend this course to others. I plan to take another course, probably 3D Animations or Graphic Design. - CompuCampus
>
> My experience at The Canadian Beauty College Newmarket Campus was amazing. The *staff was friendly, helpful and made the atmosphere feel like I was part of the family*. The six months I spent here was fun and educating and I looked forward to class every day. - Canadian Beauty College
>
> It is one of the most wonderful experience studying at the College. The staff and instructors are *friendly and helpful*. They have shown and taught me a lot. I never hesitated to ask questions as I know they are always there for me. - Anderson College of Health, Business and Technology
>
> The MOA program is amazing! The teaching staff and other personnel are *helpful, caring, compassionate and friendly*. - AOL Toronto

In extreme cases, this claim of "friendliness" was incorporated into the institution's very

[166] Image retrieved from http://www.newjobcollege.com

name ('Friendly Truck Driving School').

> This Private Career College *boasts a friendly*, flexible and modern work environment - Academy of Learning, Owen Sound
>
> Why should you choose Don Mills Career College? *Friendly and Professional Environment* - Don Mills College
>
> At Transitions College, I received excellent service. All of the staff members are *friendly and accommodating*. - Transitions College
>
> *Friendly, knowledgeable staff* are available to help with everything from the admissions process to job placement assistance. - Cestar College

Type 3 included references to small class sizes and the close, one-on-one type of interaction between students and instructors. This claim stands in stark contrast to the lecture hall experience common in Ontario public universities or colleges.

> I am very satisfied with CompuCampus College. The *classroom is small*, and the people are pleasant. It is a nice and clean school and easy to learn in. - CompuCampus
>
> The *small class sizes* give you the opportunity for more hands on training and one on one interaction. – Alumni of Anderson College
>
> I want to say a BIG BIG Thank You. Returning to school was hard but you made my experience so wonderful. I enjoyed how it felt like a small family away from home and the *classes were small* so teachers paid more attention to us. – Alumni of Access Business College
>
> I am glad I attended CTS for the PCP program for the *smaller classes* that allowed for more hands on learning and more one on one time with the instructors – Alumni of CTS
>
> The Paralegal program at Canadian Career College was excellent! The *class sizes* were great, and the hours were flexible by offering afternoon classes – Alumni of Canadian Career College

## *Affiliations*

Beyond performance indicators and testimonials, a common way of signalling legitimacy within the PCC sector was through communicating affiliations with external entities. The most common (65%) was registration with the Ministry of Training, Colleges and Universities (MTCU).

> CDI College is *registered* with the Ministry of Training, Colleges and Universities in Ontario. To learn more about MTCU in Ontario, visit www.tcu.gov.on.ca - CDI College website

> Metro College of Technology is a private career college *registered* with the Ministry of Training Colleges and University and governed by the Private Career College Act, 2005. This is an important fact to consider when looking at career colleges in Ontario, do your research and check the credentials
> -Metro College website

> Is the college *registered* with the Ministry of Training Colleges & Universities? Yes, we are a registered private Career College regulated by the PCC Act, 2005. - Stanford International College website

The second most (24%) common was membership with Career Colleges Ontario (CCO), the sector's main voluntary association. Beyond these two organizations, a sizable group (45%) of PCCs advertised affiliations to other external entities that varied by program area. Truck driving schools, for example, made numerous references to the Truck Training Schools Association of Ontario (TTSAO). Schools providing IT training commonly advertised how their programming prepared students to take certification exams associated with major corporations such as Cisco or Microsoft. Schools providing Montessori teacher training referenced certification by the Montessori Accreditation Council for Teacher Education (MACTE). Other PCCs (for welding, hairstyling,

hospitality, etc.) also cited specific entities that they were accredited by.

| **Figure 20. Accreditor Logos** | | |
|---|---|---|
| **Trucking Links**[167] | **IT Links**[168] | **Montessori Link**[169] |
|  |  |  |

Beyond program-specific accreditation bodies, PCCs also advertised links to a number of other entities, such as corporate actors in the industries they serviced. For example, the Electrical College of Canada signalled having relationships, although the nature of which were unclear, to a host of local contractors. Similarly, KTRS, a truck training school, signalled relationships to a host of transportation companies which they called 'preferred partners' and 'carriers'. The logic behind advertising such links is to connect PCCs to employers in the minds of prospective students. For example, the Truck Training Academy of Stoney Creek claims to have been "very successful in placing graduates with Schneider National, SGT 2000, Seven Star Express, Star Van Systems, Challenger Motor Freight, Zavcor Trucking Limited, Pentagon Logistics, and many other companies"[170].

These claims of affiliation can be understood in light of research on the effects of affiliations on organizational performance and survival (Baum & Oliver, 1991; 1992; Kraatz, 1998; Uzzi, 1997). Such research finds that ties to established entities signal

[167] Image retrieved from http://5thwheeltraining.com/the-ptdi-advantage/
[168] Image retrieved from http://williscollege.com/programs/network-security-professional/
[169] Image retrieved from http://www.montessori-institute.ca/
[170] See http://trucktrainingacademy.ca/job.php

adherence to institutionalized norms and assist in the acquisition of rewards (resources/legitimacy) that increase the likelihood of survival (Baum & Oliver, 1991; p. 189; Also see Baum & Oliver, 1992).

**Figure 21. Screenshot of Preferred Partners – KTRS[171]**


**Figure 22: Local Links (Liaison College, Oakville)[172]**


**Conclusion**

This chapter argues that older PSE organizations have more powerful symbols that they can use to signal legitimacy. Traditional coats of arms and mottos in ancient languages can ooze prestige. Newer institutional types, unable to leverage the power of storied symbols, resort to more corporate-like imagery and consumer-oriented symbols and logos. PCCs adopt compensatory strategies advertising performance indicators, student testimonials and association memberships. These signalling practises likely affect efforts to promote organizational development. Storied symbols, to the extent that they can evoke nostalgia and emotions, can potentially serve as 'magnets' during donor

[171] Image retrieved from https://www.krway.com/overview/preferred-carriers/
[172] Image Retrieved from http://liaisoncollegeoakville.com/

recruitment. This hypothesis is backed by research which finds that emotional bonds facilitate the acquisition of donations from alumni networks (Edmonson, 2011; Weertz & Ronca, 2007; Mael & Ashforth, 1992). This, of course, is a topic that requires further empirical investigation.

# Chapter 9

## Conclusion

Decades ago, Boudon (1974) theorized that education systems would produce degrees of inequality, at the individual level, that would be proportional with the heterogeneity of their organizational populations. He believed that greater structural differentiation – more credential tiers and streams, more organizational variety – created more decision points for students and their families, and that as a result, family-based knowledge and capital would ensure that choices would be stratified. Advantaged students and parents would, on average, make more advantageous decisions. Contemporary theories (Raferty & Hout, 1993; Lucas, 2001) of stratification have linked organizational differentiation to the generation of individual-level stratification. Theories of EMI and MMI have identified credential tiers and organizational prestige as the main dimensions that stratify flows of students. Educational expansion is said to encourage already privileged students to obtain more advanced degrees from prestigious PSE institutions. Although these theories draw attention to important dimensions of differentiation, they have two key limitations: they focus only on basic forms of institutional differentiation, and focus primarily on the university sector.

In this dissertation, I have used insights from the field of organization studies to a) highlight the full range of PSE institutions beyond the university sector, and b) argue that, beyond credential tiers and prestige, PSE organizations are further differentiated by three important traits: stratified connections with their surroundings, their networks, and their symbols. These are characteristics that vary according to institutional status, meaning that

when privileged students migrate towards more prestigious institutions they are also moving towards those that are 1) largely sheltered from local exigencies, 2) set in richly interconnected and embedded network clusters and 3) in possession of powerful and storied symbols. These forms of organizational differentiation have received little attention within the existing literature, but constitute important facets of institutional hierarchies in PSE. Linking these organizational mechanisms to student-level processes can deepen our understanding of educational stratification at multiple levels.

## Limitations and Future Research

An important contribution of this dissertation is its holistic approach to institutional stratification that draws attention to forms of differentiation and organizational mechanisms often ignored by sociologists of education (though some existing work does attend to this differentiation, e.g. Brint, Riddle & Hanneman, 2006; Davies & Zarifa, 2012). But this approach has some limitations. Because most existing institution-level data on Ontario PSE is largely technical, measuring either common organizational activities or outcomes, I have had to engage much original and time-consuming data collection to address my research questions. As a result, most of my empirical analyses are exploratory, drawing on original data that I have amassed over the last two years. Future work is necessary to provide further depth to substantiate my conclusions.

Below I discuss specific contributions and limitations for each of the three main empirical chapters. I then conclude in a fourth section with more general comments on the policy implications of this work.

### *Stratified Connections*

I aimed to document stratified connections in Ontario PSE by examining organizational artifacts of existing programs or research centres. I could not directly observe the internal organizational decision-making which lead to their creation. The sense-making process by which organizational leaders make sense of their environments is an exciting topic that I leave for future researchers. Research shows (e.g. Coburn, 2004; Hallett, 2010) that apparently straightforward organizational behaviour can be far more nuanced and contested when viewed from the 'inside'. Ethnographies could examine how, for instance, universities decide to capitalize or not on lucrative opportunities within their local environments, or how PCCs create or dismantle their programs. This future research could examine how university administrators balance risky opportunities to become more vocational with existing traditions of liberal education.

In addition, it would also be worthwhile to examine student responses to contrasting institutional strategies. What types of students respond favourably to the promise of region-specific vocational training? Which are drawn to more traditional and disconnected programming? It could very well be that these logics lead to self-selection among students from different SES-backgrounds, something that would add further detail to our broader understanding of how stratified connections influence the production of social inequality.

### *Organizational Networks*

The topic of organizational networks, their formation and benefits, remains virgin grounds in the sociology of education. Although economic sociologists have thoroughly

examined this topic in the business world, networks have been applied far less to PSE. This dissertation has shown preliminary evidence that network structures are consequential within this field. Individuals perceive associations as useful conduits of knowledge and status. Yet, my qualitative investigation of networks did not extend beyond the PCCs. Future research could examine other sectors. Do administrators at public colleges and universities similarly perceive associations as useful for acquiring formal and informal knowledge about their practises? Do they regard exclusive associations such as the U15 as markers of institutional prestige? Although I am confident that network structures serve as a valuable resource for these PSE organizations, further answers are needed, along with a need for statistical verification. Is there a statistically-significant relationship between network location and organizational performance? Are concepts like embeddedness and inter-connectivity correlated with beneficial outcomes? These questions lie beyond the scope of my analysis and require further investigation.

### *Organizational Symbols*

My analysis of organizational symbols was based on a "mapping" of symbols across Ontario PSE. However, I did not explore any micro-level processes that lead to their production or reception. With respect to production, Collins (2004) has shown that powerful symbols are both products and purveyors of sets of interaction ritual chains that charge both individuals and symbols themselves with emotional energy. Future work could examine campus rituals, whether through historical archives documenting past organizational events, or through ethnographic observation of contemporary rituals (e.g. graduations, homecoming). With respect to reception, how do student groups respond to

different types of imagery? What is the market for traditional coat of arms? Who is drawn to more corporate style logos? This research, again, could shed light in potential processes of self-selection into different sectors of the system.

There is much work to be done at the intersection of PSE and organization theory. It is my hope that this dissertation, and the publications that will subsequently emerge from it, will encourage sociologists to explore further creative applications of organizational theory to PSE. Much can be gained by further bringing these two fields into conversation, along with creating new forms of data. Below I conclude this dissertation by discussing some policy implications that flow from this project.

## Policy Implications

Although highly technical and oriented towards a niche academic audience, findings from this dissertation have implications for contemporary PSE policy discourse in Ontario. Despite current calls from prominent entities to increase institutional differentiation within Ontario PSE (see chapter 1), my research shows the system to be already quite differentiated. While the Ontario public university sector may be less differentiated than its American counterparts (Davies & Zarifa, 2012), looking beyond this sub-population reveals a broader group of organizations that is hardly homogenous. Ontario PSE is composed of an array of organizations that differ greatly across a variety of consequential dimensions. In fact, the ideal typical forms within each of the four sectors could not be any more different, both with respect to their formal structures, the ways in which they interact with their surrounding environments, network structures and symbolic resources.

The already differentiated state of the broader Ontario PSE system raises many questions about the increasingly dogmatic push for differentiation within the province. An effort needs to be made by local policymakers to clearly highlight what types and degrees of differentiation are required to produce desired results within the public university sector. Do we desire greater organizational responsiveness to local community needs? Greater collaboration among organizations to reduce program duplication? What, exactly, do we envision as an appealing outcome for this sub-population? At this point, it appears as if we are simply calling for differentiation for differentiation's sake. Depending on what our answers to these questions are, the clues as to how to proceed may already be present within the system itself. Consider, for example, that the PCC sector is already highly responsive to its local surroundings. As such, enticing this sort of organizational behaviour on the part of public universities may require that we restructure resource dependencies within that sector to more closely mimic those currently in place within the PCC sector.

# Bibliography

Abbott, A. (1988). *The system of professions: An essay on the division of expert labor*. Chicago, IL: University of Chicago Press.

Abbott, A. (2004). Methods of discovery: Heuristics for the social sciences. New York, NY: W.W. Norton.

Academica Group (2005). 2005 University Applicant Survey University Funding Research Report. London, ON: Acadmica Group Canada.

Alon, S. (2009). The evolution of class inequality in higher education competition, exclusion, and adaptation. *American Sociological Review*, *74*(5), 731-755.

American Association of Christian Colleges & Seminaries [AACCS] (2014). History & Purpose. Retrieved on September 12, 2014 from http://www.aaccs.info/history.asp

Anastakis, D. (2010). An Exaggerated Demise: Boosted by still-thriving industry, Ontario is headed for an economic renaissance. *Literary Review of Canada*. Retrieved on January 10th, 2015, from http://reviewcanada.ca/magazine/2010/10/an-exaggerated-demise/

Apling, R. N. (1993). Proprietary schools and their students. *Journal of Higher Education*, 64(4), 379-416.

Armstrong, E. A., & Hamilton, L. T. (2013). *Paying for the Party: How College Maintains Inequality*. Cambridge, MA: Harvard University Press.

Arum, R. (2000). Schools and communities: Ecological and institutional dimensions. *Annual Review of Sociology*, 26, 395-418.

Association of Canadian Career Colleges [ACCC)] (2014). About. Retrieved September 1st, 2014 from http://www.collegesinstitutes.ca/about/.

Association of Canadian Career Colleges [ACCC] (n.d.). Energy Symposium 2015 – Save the Date. Retrieved on January, 15, 2015 from http://www.collegesinstitutes.ca/event-evenement/energy-symposium-2015-save-the-date/

Association of Universities and Colleges of Canada [AUCC] (2014). About Us. Retrieved on August 29th, 2014 from http://www.aucc.ca/about-us/

Assumption University (2013). History. Retrieved on September 13, 2015 from http://assumptionu.ca/about-us/history

Aurini, J., & Quirke, L. (2011). Does market competition encourage strategic action in the private education sector. *Canadian Journal of Sociology*, *36*(2), 173-197.

Axelrod, P. (1982). *Scholars and Dollars: Politics, Economics, and the Universities of Ontario, 1945-1980*. Toronto, ON: University of Toronto Press.

Axelrod, P. (1997). *The promise of schooling: education in Canada, 1800-1914*. Toronto, ON: University of Toronto Press.

Axelrod, P., & Reid, J. G. (1989). *Youth, University, and Canadian Society: Essays in the Social History of Higher Education*. Kingston, ON: McGill-Queen's Press-MQUP.

Baker, J. (2014). No Ivies, Oxbridge, or grandes Écoles: constructing distinctions in university choice. *British Journal of Sociology of Education*, *35*(6), 914-932.

Baruch, Y. (2006). *On logos, business cards: the case of UK universities* in Rafaeli, A., & Pratt, M. G. (eds) Artifacts and organizations: Beyond mere symbolism. Psychology Press, p. 181-198. Mahwah, NJ: Lawrence Erlbaum Associates.

Bastedo, M. N., & Gumport, P. J. (2003). Access to what? Mission differentiation and academic stratification in US public higher education. *Higher Education*, *46*(3), 341-359.

Baum, J. A., & Mezias, S. J. (1992). Localized competition and organizational failure in the Manhattan hotel industry, 1898-1990. *Administrative Science Quarterly*, *37*(4), 580-604.

Baum, J. A., & Oliver, C. (1991). Institutional linkages and organizational mortality. *Administrative Science Quarterly*, *36*(2), 187-218.

Baum, J. A., & Oliver, C. (1992). Institutional embeddedness and the dynamics of organizational populations. *American Sociological Review*, 57(4), 540-559.

Bayard, J. & Greelnee, E. (2009). Graduating in Canada: Profile, Labour Market Outcomes and Student Debt of the Class of 2005. Culture, Tourism and the Centre for Education Statistics. Catalogue no. 81-595-M – No. 074

Becker, G. S. (1962). Investment in human capital: A theoretical analysis. *The Journal of Political Economy, 70*(5), 9-49.

Beland, D. (2007). Ideas and Institutional Change in Social Security: Conversion, Layering, and Policy Drift. *Social Science Quarterly*, *88*(1), 20-38.

Belitsky, A. H. (1970). Private Vocational Schools: Their Emerging Role in Postsecondary Education. Washington, DC: The W.E. Upjohn Institute.

Berg, I. (1970). *Education for Jobs: The Great Training Robbery*. New York, NY: Praegers Publishers.

Berg, P. O. (1986). Symbolic management of human resources. *Human Resource Management*, *25*(4), 557-579.

Binder, A. J., Davis, D. B., & Bloom, N. (2015). Career Funneling How Elite Students Learn to Define and Desire ‘‘Prestigious’’ Jobs. *Sociology of Education*, *89*(1), 20-39.

Bitti, M. (2015, January 1). Looking for a new job in 2015? Advanced manufacturing is hiring. *Financial Post*. Retrieved on September 17, 2014 from http://business.financialpost.com/2015/01/01/looking-for-a-new-job-in-2015-advanced-manufacturing-is-hiring/?__lsa=8829-2c8a

Boli, J., Ramirez, F. O., & Meyer, J. W. (1985). Explaining the origins and expansion of mass education. *Comparative Education Review*, *29*(2), 145-170.

Boliver, V. (2011). Expansion, differentiation, and the persistence of social class inequalities in British higher education. *Higher Education*, *61*(3), 229-242.

Boudon, R. (1974). *Education, Opportunity, and Social Inequality: Changing Prospects in Western Society.* New York, NY: John Wiley & Sons.

Bowles, S., & Gintis, H. (1976). *Schooling in capitalist America: Education and the contradictions of economic life*. New York, NY: Basic Books.

Brewer, M. B., & Brown, R. J. 1998. Intergroup relations. In D. T. Gilbert, Fiske, S. & Lindzey, G. (Eds.), *Handbook of Social Psychology*, p. 554-594. Boston, MA: McGraw-Hill.

Brint, S. (1994). *In an age of experts: The changing role of professionals in politics and public life*. Princeton, NJ: Princeton University Press.

Brint, S. (2013). A Priori and Empirical Approaches to the Classification of Higher Education Institutions: The United States Case. *Pensamiento Educati*vo, *50*(1), 96-114.

Brint, S., Riddle, M., & Hanneman, R. A. (2006). Reference sets, identities, and aspirations in a complex organizational field: The case of American four-year colleges and universities. *Sociology of Education, 79*(3), 229-252.

Brint, S., & Karabel, J. (1991). *The Diverted Dream: Community Colleges and the Promise of Educational Opportunity in America, 1900-1985*. New York, NY: Oxford University Press.

Broadbent, J., Dietrich, M., & Roberts, J. (2005). *The end of the professions?: The restructuring of professional work*. New York, NY: Routledge.

Brown, D. K. (1995). *Degrees of control: A sociology of educational expansion and occupational credentialism*. New York, NY: Teachers College Press.

Bruderl, J., & Schussler, R. (1990). Organizational mortality: The liabilities of newness and adolescence. *Administrative Science Quarterly, 35*(3), 530-547.

Callahan, E. (2005). Cultural similarities and differences in the design of university web sites. *Journal of Computer-Mediated Communication, 11*(1), 239-273.

Cameron, K. S. (1984). Organizational adaptation and higher education. *The journal of higher education*, 122-144.

Campbell, D.T. & Fiske, D.W. (1959). Convergent and discriminant validation by the multitraitmultimethod matrix. *Psychological Bulletin*, *56*, 81-105.

Campbell, J. (1964). Honour, family and patronage. Oxford, U.K.: Clarendon.

Canadian Association of University Business Officers [CAUBO] (2014). Highlights and Achievement 2013-2014. Retrieved on April 26, 2015 from http://www.caubo.ca/sites/137.149.200.5.pilot/files/CAUBO_2014_highlight_e_final.pdf

Career Colleges Ontario (2014). Your Association. Retrieved on September 2nd, 2014 from http://www.careercollegesontario.ca/your-association/

City of Guelph. (2014). Growth Sectors. Retrieved on July 13th, 2014 from http://guelph.ca/business/economic-development-office/growth-sectors/

City of Hamilton, 2008. Hamilton Agricultural Profile 2008. Retrieved on July 14, 2014 from http://www.investinhamilton.ca/wp-content/uploads/2011/06/hamilton agriprofile08.pdf

City of Hamilton. (2012). Golden Horseshoe Agriculture & Agri-Food Strategy. Retrieved on July 20th, 2014 from http://www2.hamilton.ca/NR/rdonlyres/8175088D-861F-4165-9886-B46CD9F30E8E/0/Feb15EDRMS_n267572_v1_7_1__PED12020.pdf

City of London (2012). A Path to Prosperity: Community Business Ideas to Help Stimulate our Economy. Retrieved on July 17, 2014 from http://prosperityforlondon.ca/pdfs/A_Path_to_Prosperity_London.pdf

City of Mississauga (2010). Economic Development Strategy: Building on Success. Retrieved September 7th, 2014 from http://www.mississauga.ca/file/COM/City_of_Mississauga_Economic_Development_Strategy__Building_on_Success_.pdf

City of Mississauga (2011). Leading Businesses in Our Community. Retrieved on September 7th, 2014 from http://www.mississauga.ca/file/COM/2011_Leading_Businesses_in_Our_Communiity.pdf

City of Mississauga (2012). Economic Development Strategy: Building on Success. Retrieved on September 7th, 2014 from http://www.mississauga.ca/file/COM/Executive_Summary.pdf

City of Mississauga (2012a). 'Talent Employment'. Retrieved September 7th, 2014 from http://www.mississauga.ca/file/COM/Talent___Employment_.pdf

City of Mississauga (2013). Top Employers. Retrieved on September 8th, 2014 from http://www.mississauga.ca/file/COM/Top_Employers.pdf

City of Mississauga (2014). Population, Demographics & Housing. Retrieved on July 22, 2014 from http://www7.mississauga.ca/documents/business/2014/Population_Demographics_&_Housing.pdf

City of Mississauga (2015). Mayor Represents Mississauga at 2015 BIO International Convention. Retrieved on July 12, 2014 from http://www.mississauga.ca/portal/cityhall/pressreleases?paf_gear_id=9700020&itemId=4900542q

City of Mississauga (n.d). A profile of Mississauga's Life Sciences Cluster: Life Sciences focus. Retrieved on July 14, 2014 from ttp://www.mississauga.ca/file/COM/Life_Sciences_Focus.pdf

Clark, B. R. (1960). The" cooling-out" function in higher education. *American journal of Sociology*, *65*(6), 569-576.

Clark, B. R. (1971). Belief and loyalty in college organization. *The Journal of Higher Education*, *42*(6), 499-515.

Clark, B. R. (1972). The organizational saga in higher education. *Administrative Science Quarterly, 17*(2), 178-184.

Clark, B. R. (1983). *The higher education system: Academic organization in cross-national perspective*. Los Angeles, CA: Univ of California Press.

Clark, I. D., Van Loon, R. J., & Trick, D. (2011). *Academic reform: Policy options for improving the quality and cost-effectiveness of undergraduate education in Ontario*. Kingston, ON: Queen's Policy Studies Series, McGill-Queen's University Press.

Clayton, M. J., Cavanagh, K. V., & Hettche, M. (2012). Institutional branding: A content analysis of public service announcements from American universities. *Journal of Marketing for Higher Education*, *22*(2), 182-205.

Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, S95-S120.

Colleges Ontario (2014). Mission & Priorities. Retrieved on September 1st, 2014 from http://www.collegesontario.org/colleges-ontario/mission-and-priorities.html

Colleges Ontario (2014). Environmental Scan 2014. Retrieved on January 15th, 2015 from http://www.collegesontario.org/research/2014_environmental_scan/CO_EnvScan_2014_PROFILES_WEB.pdf

Colleges Ontario (n.d.). Home. Retrieved on September 1st, 2014 from https://www.linkedin.com/company/network-for-innovation-and-entrepreneurship.

Collins, R. (1971). Functional and conflict theories of educational stratification. *American Sociological Review*, *36*(6), 1002-1019.

Collins, R. (1979). *The credential society: An historical sociology of education and stratification*. New York, NY: Academic Press.

Collins, R. (2004). *Interaction ritual chains*. Princeton, NJ: Princeton university press.

Cookson, P. W., & Persell, C. H. (1985). English and American residential secondary schools: a comparative study of the reproduction of social elites. *Comparative Education Review*, *29*(3), 283-298.

Cormier, J. (2005). The Canadianization Movement in Context. *Canadian Journal of Sociology, 30*(3), 351-370.

Cornelius, Peter K. and Beatrice S. Weder. 1996. "Economic Transformation and Income Distribution: Some Evidence from the Baltic Countries." *IMF Staff Papers,* 43, 587-604.

Coburn, C. E. (2004). Beyond decoupling: Rethinking the relationship between the institutional environment and the classroom. *Sociology of Education*, *77*(3), 211-244.

Council of Christian Colleges & Universities [CCCU] (2014). About. Retrieved on September 10, 2014 from http://www.cccu.org/about.

Council of Ontario Universities [COU] (2010). Position Paper on Collaborative Nursing Programs in Ontario. Retrieved from http://cou.on.ca/wp-content/uploads/2015/05/COU-Position-Paper-on-Collaborative-Nursing-Programs-in-Ontario.pdf

Council of Ontario Universities [COU] (2014). About Us. Retrieved on August 25, 2014 from http://www.cou.on.ca/about/who-we-are.

Creswell, J. & Clark, V. (2007). Designing and conducting mixed methods research. Thousand Oaks, CA: Sage.

D'Aunno, T., Succi, M., & Alexander, J. A. (2000). The role of institutional and market forces in divergent organizational change. *Administrative Science Quarterly*, 45(4), 679-703.

Dacin, M. T. (1997). Isomorphism in context: The power and prescription of institutional norms. *Academy of Management Journal*, 40(1), 46-81.

Dalton, M. (1959). Men Who Manage. New York, NY: Wiley.

Davies, S., & Aurini, J. (2004). The transformation of private tutoring: Education in a franchise form. *Canadian Journal of Sociology*, *29*(3), 419-438.

Davies, S., & Guppy, N. (1997). Fields of study, college selectivity, and student inequalities in higher education. *Social Forces*, *75*(4), 1417-1438.

Davies, S., & Guppy, N. (2013). *The schooled society: An introduction to the sociology of education*. Toronto: Oxford University Press.

Davies, S., & Hammack, F. M. (2005). The channeling of student competition in higher education: Comparing Canada and the US. *The Journal of Higher Education*, *76*(1), 89-106.

Davies, S., & Quirke, L. (2007). The impact of sector on school organizations: Institutional and market logics. *Sociology of Education*, *80*(1), 66-89.

Davies, S., Maldonado, V., & Zarifa, D. (2014). Effectively maintaining inequality in Toronto: predicting student destinations in Ontario Universities.*Canadian Review of Sociology*, *51*(1), 22-53.

Davies, S. & Pizarro Milian, R. (forthcoming). Maintaining Status in New Times: The continuing stratification of Anglo-American universities. In Cote, J. & Furlong, A. (eds.) *Routledge Handbook of the Sociology of Higher Education*. Routledge International Books.

Davies, S. & Zarifa, D. (2006). The Stratification of Universities. Paper presented at the AERA annual meeting. San Francisco, CA.

Davies, S., & Zarifa, D. (2012). The stratification of universities: Structural inequality in Canada and the United States. *Research in Social Stratification and Mobility*, *30*(2), 143-158.

Davis, K. & Moore, W. (1945). Some principles of stratification. *American Sociological Review*, *10*, 242-249.

De Vecchi, V. G. (1985). Science and Scientists in Government, 1878-1896--Part II. *Canadian Journal of the History of Science, Technology and Medicine*, *9*(2), 97-113.

DeBono, N. (2014, June 23). A new Western University incubator in southeast London. Retrieved from http://www.lfpress.com/2014/06/23/a-new-western-university-incubator-in-southeast-london-could-be-the-key-to-kick-starting-manufacturing-in-the-region-following-the-loss-of-thousands-of-jobs-in-recent-years

Deil-Amein, R. (2015). The "Traditional" College Student: A Smaller and Smaller Minority and Its Implications for Diversity and Access Institutions. In Stevens, M., & Kirst, M. (eds.) *Remaking college: The changing ecology of higher education* (134-168). Stanford University Press.

Deephouse, D. L., & Carter, S. M. (2005). An Examination of Differences Between Organizational Legitimacy and Organizational Reputation*. *Journal of management Studies*, *42*(2), 329-360.

Delacroix, J., & Swaminathan, A. (1991). Cosmetic, speculative, and adaptive organizational change in the wine industry: A longitudinal study. *Administrative Science Quarterly*, *36*(4), 631-661.

Demerath, P. (2009). *Producing success: The culture of personal advancement in an American high school*. Chicago, IL: University of Chicago Press.

Denzin, N.K. (1978). The Research Act (2nd ed). New York, NY: McGraw-Hill.

Dill, D. D., & Soo, M. (2005). Academic quality, league tables, and public policy: A cross-national analysis of university ranking systems. *Higher Education*, *49*(4), 495-533.

DiMaggio, D. P & Powell, W.W. (1983). The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review*, *48*(2), 147-160.

Dooley, M. D., Payne, A. A., & Robb, A. L. (2009). *Merit-Aid and the Distribution of Entering Students Across Ontario Universities*. Toronto, ON: Higher Education Quality Council of Ontario.

Drewes, T., & Michael, C. (2006). How do students choose a university?: an analysis of applications to universities in Ontario, Canada. *Research in Higher Education*, 47(7), 781-800.

Drori, G. S., Delmestri, G., & Oberg, A. (2013). Branding the university: relational strategy of identity construction in a competitive field. In L. Engwall & P. Scott (eds.), Trust in higher education institutions (pp. 134–147). London, UK: Portland Press.

Edmonson, L. (2011). Explaining the Alumni Relationship and Giving Tendencies of Multigeneration Alumni Legacy Families at Marquette University (M.A. Thesis). Retrieved from http://epublications.marquette.edu/cps_professional/39/

Enersource (2013). Enersource and Sheridan College partner to help local business be more competitive through energy efficiency. Retrieved on September 15, 2014 from http://www.enersource.com/about-enersource/MediaRoom/News%20Release%20-%20Enersource%20and%20Sheridan%20College%20Partner%20to%20Help%20Local%20Businesses.pdf

Espeland, W. N., & Sauder, M. (2007). Rankings and reactivity: How public measures recreate social Worlds. *American Journal of Sociology*, *113*(1), 1-40.

Espenshade, T. J., & Radford, A. W. (2009). *No longer separate, not yet equal: Race and class in elite college admission and campus life*. Princeton, NJ: Princeton University Press.

Ethiraj, S. K., & Levinthal, D. (2004). Bounded rationality and the search for organizational architecture: An evolutionary perspective on the design of organizations and their evolvability. *Administrative Science Quarterly, 49*(3), 404-437.

Fallis, G. (2005). The mission of the university. *Canadian Society for the Study of Higher Education* (Professional File #26).

Fallis, G. & Rose (2008). The Role of Academic Colleagues in the Council of Ontario Universities. Retrieved on January 20th, 2015 from http://cou.on.ca/wp-content/uploads/2015/07/Academic-Colleagues-Paper-Role-of-Academic-Colleagues-in-COU.pdf

Ferguson, J. K. W. (1960). Canadian Milestones in Medical Research. *Bulletin of the Medical Library Association*, 48(1), 21-26.

Fisher, D., Rubenson, K., Jones, G., & Shanahan, T. (2009). The political economy of post-secondary education: A comparison of British Columbia, Ontario and Québec. *Higher Education*, 57(5), 549-566.

Fleming, W. G. (1971). Ontario's Educative Society. Toronto, ON: University of Toronto Press.

Frank, D. J., & Meyer, J. W. (2007). University expansion and the knowledge society. *Theory and Society, 36*(4), 287-311.

Freidson, E. (1974). *Professional dominance: The social structure of medical care*. New Brunswick, NJ: Transaction Publishers.

Freidson, E. (1988). *Profession of medicine: A study of the sociology of applied knowledge*. Chicago, IL: University of Chicago Press.

Freidson, E. (2001). *Professionalism, the third logic: on the practice of knowledge*. Chicago, IL: University of Chicago press

Freeman, J., Carroll, G. R., & Hannan, M. T. (1983). The liability of newness: Age dependence in organizational death rates. *American Sociological Review, 48*(5), 692-710.

Friedlander, M. C. (1980). *Characteristics of Students Attending Proprietary Schools and Factors Influencing Their Institutional Choice*. Cincinnati, OH: South-Western Publishing.

Fuchs, S. (1992). *The professional quest for truth: A social theory of science and knowledge*. Albany, NY: SUNY Press

Gidney, C. (2004). *Long Eclipse: The Liberal Protestant Establishment and the Canadian University, 1920-1970*. Kingston, ON: McGill-Queen's Press.

Gingras, Y. (1986). The institutionalization of scientific research in Canadian universities: the case of physics. *Canadian Historical Review*, 67(2), 181-194.

Gluckman, M. (1963). Papers in honor of Melville J. Herskovits: Gossip and scandal. *Current Anthropology, 4*(3), 307-316.

Gluckman, M. (1968). Psychological, sociological and anthropological explanations of witchcraft and gossip: A clarification. *Man, 3*(1), 20-34.

Gnolek, S. L., Falciano, V. T., & Kuncl, R. W. (2014). Modeling Change and Variation in US News & World Report College Rankings: What would it really take to be in the Top 20?. *Research in Higher Education*, *55*(8), 761-779.

GlaxoSmithKline (2002). Presentation to the Ontario Competitiveness & Prosperity Forum. Institute for Competitiveness and Prosperity. Retrieved from http://www.competeprosper.ca/uploads/GSK_211002.pdf

Goodwyn, A. (2002). Breaking up is hard to do: English teachers and that LOVE of reading. *English Teaching: Practice and Critique*, 1(1), 66-78.

Gora, J. (2010). Run that sexy motto by me again. *Australian Universities' Review*, *52*(1), 77-80.

Gordon, J., & Berhow, S. (2009). University websites and dialogic features for building relationships with potential students. *Public Relations Review*, 35(2), 150-152.

Görg, H. (2000). Analysing foreign market entry-The choice between greenfield investment and acquisitions. *Journal of Economic Studies*, *27*(3), 165-181

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360-1380.

Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, *91*(3), 481-510.

Grubb, W. N. (1993). The varied economic returns to postsecondary education: New evidence from the class of 1972. *Journal of Human Resources*, *28*(2), 365-382.

Hamilton Business (2015). Hamilton's diverse economy a model for province, Duguid tells roundtable attendees. Retrieved from http://www.hamiltonbusiness.com/dir/2015/03/from-recovery-mode-to-growth/

Hamilton Economic Development Office (2014). Quick Facts. Retrieved on August 26, 2014 from http://www.investinhamilton.ca/why-hamilton/quick-facts/

Hamilton Health Sciences. (2014). About Us. Retrieved on August 26, 2014 from http://www.hamiltonhealthsciences.ca/

Hamilton Spectator (2014). Feature: Former Mohawk College Pres. MacIsaac Begins New Role Leading HHS. Retrieved from http://www.thespec.com/news-story/4346425-feature-former-mohawk-college-pres-macisaac-begins-new-role-leading-hhs/

Hannan, M. T. (1997). Inertia, density and the structure of organizational populations: Entries in European automobile industries, 1886-1981. *Organization Studies, 18*(2), 193-228.

Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology*, *82*(5), 929-964.

Hannan, M. T., & Freeman, J. (1984). Structural inertia and organizational change. *American Sociological Review*, *49*(2), 149-164.

Harris, R. S. (1976). *A History of Higher Education in Canada 1663-1960*. Toronto, ON: Toronto University Press.

Harris, M. S. (2009). Message in a bottle: University advertising during bowl games. *Innovative Higher Education*, *33*(5), 285-296.

Harwood, T. G., & Garry, T. (2003). An overview of content analysis. *The Marketing Review*, 3(4), 479-498.

Hashimoto, M. (1981). Firm-specific human capital as a shared investment. The *American Economic Review*, 71(3) 475-482.

Hazelkorn, E. (2008). Learning to live with league tables and ranking: The experience of institutional leaders. *Higher Education Policy*, 21(2), 193-215.

Hazelkorn, E. (2013). World-Class Universities or World Class Systems?: Rankings and Higher Education Policy Choices.

Heath, A., & Brinbaum, Y. (2007). Explaining ethnic inequalities in educational attainment. *Ethnicities*, 7(3), 291-304.

Hemsley-Brown, J., & Oplatka, I. (2006). Universities in a competitive global marketplace: A systematic review of the literature on higher education marketing. *International Journal of Public Sector Management*, *19*(4), 316-338.

Hermanowicz, J. C. (2005). Classifying universities and their departments: A social world perspective. *The Journal of Higher Education*, *76*(1), 26-55.

Herz, R. S., & Cupchik, G. C. (1995). The emotional distinctiveness of odor-evoked memories. *Chemical Senses*, 20(5), 517-528.

Hicks, M., Weingarten, H. P., Jonker, L., & Liu, S. (2013). *The Diversity of Ontario's Colleges: A Data Set to Inform the Differentiation Discussion*. Toronto, ON: Higher Education Quality Council of Ontario.

Holloway, D. J., & Holloway, D. A. (2005). University logos and the commoditisation of higher education. Retrieved on January 12, 2015 from http://researchrepository.murdoch.edu.au/7950/.

Illich, I. (1971). *Deschooling society*. New York, NY: Harper & Row.

Jackall, R. (1983). *Moral mazes: The world of corporate managers*. Oxford, UK: Oxford University Press.

Jick, T. D. (1979). Mixing qualitative and quantitative methods: Triangulation in action. *Administrative Science Quarterly*, 24(4), 602-611.

Jones, G. A. (1991). Modest modifications and structural stability: Higher education in Ontario. *Higher Education*, *21*(4), 573-587.

Jones, G. A. (2004). Ontario higher education reform, 1995-2003: From modest modifications to policy reform. *Canadian Journal of Higher Education*, *34*(3), 39-54.

Karabel, J. (2005). *The chosen: The hidden history of admission and exclusion at Harvard, Yale, and Princeton*. Boston, MA: Houghton Mifflin Harcourt.

Kaufman, J. A. (2009). *The origins of Canadian and American political differences*. Cambridge, MA: Harvard University Press.

Kirst, M. W., Stevens, M. L., & Proctor, C. (2010). Broad-access higher education: A research framework for a new era. Retrieved on January 15th, 2015 from http://cepatest.stanford.edu/sites/default/files/Research%20Framework%2004-01-11.pdf

Karakaya, F. (2002). Barriers to entry in industrial markets. *Journal of Business & Industrial Marketing*, 17(5), 379-388.

Kerr, C. (1994). *Troubled times for American higher education: The 1990s and beyond*. Albany, NY: SUNY Press.

Kerr, C. (2002). Shock wave II: An introduction to the twenty-first century. In Brint, S. (ed)*The future of the city of intellect: The changing American university* (1-19). Stanford, CA: Stanford University Press.

Khan, S. R. (2011). *Privilege: The making of an adolescent elite at St. Paul's School*. Princeton, NJ: Princeton University Press.

Kong, Q., & Veall, M. R. (2005). Does the" Maclean's" Ranking Matter? *Canadian Public Policy*, *31*(3), 231-242

Kraatz, M. S. (1998). Learning by association? Interorganizational networks and adaptation to environmental change. *Academy of Management Journal*, 41(6), 621-643.

Labaree, D. F. (1997). *How to succeed in school without really learning: The credentials race in American education*. New Haven, CT: Yale University Press.

Labaree, D. F. (2012). *Someone has to fail*. Cambridge, MA: Harvard University Press.

Lareau, A. (2000). *Home advantage: Social class and parental intervention in elementary education*. New York, NY: Rowman & Littlefield Publishers.

Larson, M. S. (1977). *The rise of professionalism: A sociological analysis*. Los Angeles, CA: University of California Press.

Li, C. (2006). *Canada's private colleges: The lesser known players in postsecondary education*. Statistics Canada.

Lifschitz, A., Sauder, M., & Stevens, M. L. (2014). Football as a status system in US higher education. *Sociology of Education*, *87*(3), 204-219.

Lindstrom, M. (2005). Broad sensory branding. *Journal of Product & Brand Management*, 14(2), 84-87.

Ling Wab, S.A.(2014). Special Lecture. *Asian Journal of the Scholarship of Teaching and Learning*, 4(2), 66-74.

London Chamber of Commerce (2014). Regional Economic Outlook 2014: London. Retrieved on August 24th, 2014 from http://www.occ.ca/advocacy/economic-outlook-2014/london/

London Economic Development Corporation. (2014). 'Why London?'. Retrieved on August 23rd, 2014 from http://www.ledc.com/why-london

London Health Sciences Centre (2014). Welcome. Retrieved on August 24th, 2014 from http://www.lhsc.on.ca/About_Us/LHSC/index.htm

Lucas, S. R. (2001). Effectively Maintained Inequality: Education Transitions, Track Mobility, and Social Background Effects1. *American Journal of Sociology*, *106*(6), 1642-1690.

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *Journal of Organizational Behavior*, *13*(2), 103-123.

Maclean's Magazine (2013, March 8). That Typical Western Girl. Retrieved on January 16th, 2015 from http://www.macleans.ca/education/uniandcollege/that-typical-western-girl/

Mahoney, J. (2000). Path dependence in historical sociology. *Theory and Society*, 29(4), 507-548.

Malatest & Associates (2008). Survey of Canadian Career College Students. Phare II: In-School student survey. Montreal, QC: Canadian Millennium Foundation.

March, J. & Simon, H. (1958). Organizations. Oxford, UK: Wiley.

Massecar, A. (2014). Statue could help develop sense of Gryphon pride. *Guelph Mercury*. Retrieved from http://www.guelphmercury.com/opinion-story/4621562-statue-could-help-develop-sense-of-gryphon-pride/

McCormick Canada (2014). History. Retrieved on August 23, 2014 from http://www.mccormick.it/mcCormick/brand_page/en-CA/5949/Our_History.aspx

McCutcheon, J.M. (1941). *Public education in Ontario*. Toronto, ON: T.H. Best Printing.

McKelvey, B. (1982). *Organizational systematics: Taxonomy, evolution, classification.* Los Angeles, LA: University of California Press.

McKenna, Barrie (2013, October 2). 'How Steeltown transformed into a booming agrifood hub'. *Globe and Mail*. Retrieved http://www.theglobeandmail.com/report-on-business/how-steeltown-became-a-booming-agri-food-hub/article14661321/

McKillop, A. B. (1993). *Matters of mind: The University in Ontario, 1791-1951*. University of Toronto Press.

McMaster University (2002). Campus Plan. Retrieved on September 12, 2014 from http://brandtools.mcmaster.ca/misc/campusplan_pdf/fullplan.pdf

McMaster University (2005). Dofasco and McMaster establish Canada's First Centre for Engineering and Public Policy. Retrieved on September 14, 2014 from http://dailynews.mcmaster.ca/article/dofasco-and-mcmaster-establish-canadas-first-centre-for-engineering-and-public-policy/

McMaster University (2008). Background to the Campus Master Plan. Retrieved on August 22, 2014 from http://brandtools.mcmaster.ca/misc/campusplan_pdf/2.pdf

McMaster University (2013). History. Retrieved March 2nd, 2015 from http://www.mcmaster.ca/univsec/history.cfm

McMaster University (n.d.). McMaster-Mohawk Bachelor of Technology Degree. Retrieved on August 22, 2014 from http://www.eng.mcmaster.ca/btech.html

McMaster University (n.d.[c]). 'Why pursue an M.Eng. Manufacturing Engineering'. Retrieved from http://wbooth.mcmaster.ca/manufacturing/about.html

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27, 415-444.

Metcalfe, A. S. (2010). Revisiting academic capitalism in Canada: No longer the exception. *Journal of Higher Education*, *81*(4), 489-514.

Meyer, J. W., Ramirez, F. O., & Soysal, Y. N. (1992). World expansion of mass education, 1870-1980. *Sociology of Education*, *65*(2), 128-149.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340-363.

Meyer, J. W., & Scott, W. R. (1983). *Organizational environments: Ritual and rationality*. Beverly Hills, CA: Sage.

Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of Political Economy, 66*(4), 281-302.

Ministry of Research & Innovation [MRI] (2012). Mississauga: The City and the Economy that Hazel built. Retrieved on September 1st, 2014 from http://www.mri.gov.on.ca/obr/2012/07/mississauga-the-city-and-the-economy-that-hazel-built/

Ministry of Training, Colleges & Universities [MTCU] (1996). Report of the Advisory Panel on Future Directions for Postsecondary Education. Retrieved from https://www.tcu.gov.on.ca/eng/document/reports/futuree.html

Molina-Azorín, J. F. (2010). The use and added value of mixed methods in management research. *Journal of Mixed Methods Research, 5*(1), 7-24.

Monahan, E. J. (1988). The allocation of financial support by formula: The experience of Ontario. *Minerva, 26*(3), 370-391.

Monahan, E. J. (2004). Collective autonomy: A history of the Council of Ontario Universities 1962-2000. Waterloo, ON: Wilfrid Laurier University Press.

Morrill, C. (1995). *The executive way: Conflict management in corporations*. Chicago, IL: University of Chicago Press.

Mullen, A. L. (2010). *Degrees of inequality: Culture, class, and gender in American higher education*. Baltimore, MD: John Hopkins University Press

National Association of Career Colleges [NACC]. (2014). About NACC. Retrieved on September 2nd, 2014 from http://nacc.ca/about-nacc/

Norgaard, R. B. (1989). The case for methodological pluralism. *Ecological Economics*, 1(1), 37-57.

Ohme, Allison (n.d.) The economic impact of a university on its community and state: Examining trends four years later. Retrieved from http://www.udel.edu/IR/presentations/EconImpact.doc

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review, 16*(1), 145-179.

Oliver, C. (1992). The antecedents of deinstitutionalization. *Organization Studies*, *13*(4), 563-588.

Ontario Colleges Athletic Association [OCAA]. (2014). History. Retrieved on September 1st, 2014 from http://www.ocaa.com/about/history.

Ontario Hair Styling Association [OHSA]. (2014). Membership. Retrieved September 2nd, 2014 from http://www.ohsacolleges.ca/membership.htm

Ontario Hair Styling Association [OHSA]. (2014). Welcome to OHSA!. Retrieved September 2nd, 2014 from http://www.ohsacolleges.ca/

Ontario University Athletics [OUA]. (2014). About Us. Retrieved on August 27th, 2014 from http://www.oua.ca/about/about_us.

Ontario University Application Centre [OUAC] (2015). Collaborative University and College Programs. Retrieved from http://www.ouac.on.ca/docs/101/collab_b.pdf

Oplatka, I. (2002). The emergence of educational marketing: Lessons from the experiences of Israeli principals. *Comparative Education Review*, *46*(2), 211-233.

Paine, R. (1967) "What is gossip about? An alternative hypothesis." *Man, 2*(2), 278-285.

Parsa, H. G., Self, J. T., Njite, D., & King, T. (2005). Why restaurants fail. *Cornell Hotel and Restaurant Administration Quarterly*, *46*(3), 304-322.

Pathways Skills Development (2014). 'Programs and Services'. Retrieved on August 30th, 2014 from http://pathwaysskilldevelopment.squarespace.com/ skills-programs-services/

Payne, G., Williams, M., & Chamberlain, S. (2004). Methodological pluralism in British sociology. *Sociology*, 38(1), 153-163.

Pegoraro, A. (2006). Using university websites for student recruitment: A study of Canadian university home pages examining relationship marketing tactics and website usability (Doctoral Dissertation). Retrieved from http://gradworks.umi.com.libaccess.lib.mcmaster.ca/32/37/3237484.html

Peterborough Social Planning Council (2011). The Future of Peterborough Food & Farming: A Call for Reflection & Discussion. Retrieved on September 9th, 2014 from http://www.pspc.on.ca/pdf/final_report_oct_6_the_future_of_food.pdf

Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependence approach*. New York, NY: Harper and Row Publishers.

Phillipson, D. J. (1991). The National Research Council of Canada: Its Historiography, its Chronology, its Bibliography. Scientia Canadensis: *Canadian Journal of the History of Science, Technology and Medicine*, *15*(2), 177-193.

Pietsch, T. (2010). Wandering scholars? Academic mobility and the British World, 1850–1940. *Journal of Historical Geography*, *36*(4), 377-387.

Pizarro Milian, R. & Hicks, M. (2014). Ontario Private Career Colleges: An Exploratory Analysis. Toronto, ON: Higher Education Quality Council of Ontario.

Pizarro Milian, R. & Quirke, L. (forthcoming). Alternative Pathways to Legitimacy: The Case of Ontario For-Profit Colleges. *Journal of Marketing for Higher Education*.

Podolny, J. M. (1993). A status-based model of market competition. *American Journal of Sociology*, *98*(4), 829-872.

Podolny, J. M., & Page, K. L. (1998). Network forms of organization. *Annual Review of Sociology*, *24*, 57-76.

Porter, D. (2013). Regional Close-up: A snapshot of the local economic scene. BMO Capital Markets Economic Research. Retrieved on August 25th, 2014 from http://www.bmonesbittburns.com/economics/reports/20130916/rc130916.pdf

Porter, M. R., & Porter, J. (1979). *Does money matter?: Prospects for higher education in Ontario*. Kingston, ON: McGill-Queen's University Press.

Potts, A., 2003. The uses of imagery and the university: some examples from the New World of Australia, New Zealand and the United States. *Journal of Educational Administration and History*, *35*(2), 101-113.

Quirke, L. (2009). Legitimacy through alternate means: Schools without professionals in the private sector. *British Journal of Sociology of Education*, *30*(5), 621-634.

Quirke, L. (2013). Rogue Resistance: Sidestepping Isomorphic Pressures in a Patchy Institutional Field. *Organization Studies*, *34*(11), 1675-1699.

Quirke, L., & Davies, S. (2002). The new entrepreneurship in higher education: The impact of tuition increases at an Ontario university. *Canadian Journal of Higher Education*, *32*(3), 85-109.

Queen's University (n.d.). Queen's University Campus Master Plan. Retrieved on September 10th, 2014 from http://queensu.ca/cmp/sites/default/files/assets/Queens-CMP-Executive-Summary.pdf

Queen's (2013). History of the University. Retrieved on September 10, 2014 from http://www.queensu.ca/calendars/artsci/History_of_the_University.html

Radford, A. W. (2013). *Top student, top school?: How social class shapes where valedictorians go to college*. Chicago, IL: University of Chicago Press.

Raftery, A. E., & Hout, M. (1993). Maximally maintained inequality: Expansion, reform, and opportunity in Irish education, 1921-75. *Sociology of Education*, 66(1), 41-62.

Rosenbaum, J. E. (2001). *Beyond College For All: Career Paths for the Forgotten Half: Career Paths for the Forgotten Half*. New York, NY: Russell Sage Foundation.

Ross, P. N. (1972). The Establishment of the Ph. D. at Toronto: A Case of American Influence. *History of Education Quarterly*, *12*(3), 358-380.

Reich, S. (2000). The four faces of institutionalism: public policy and a pluralistic perspective. *Governance*, *13*(4), 501-522.

Ranger-Moore, J. (1997). Bigger may be better, but is older wiser? Organizational age and size in the New York life insurance industry. *American Sociological Review*, *62*(6), 903-920.

Ranger-Moore, J., Banaszak-Holl, J., & Hannan, M. T. (1991). Density-dependent dynamics in regulated industries: Founding rates of banks and life insurance companies. *Administrative Science Quarterly*, *36*(1), 36-65.

Richardson, J. G. (Ed.). (1986). Handbook of Theory and Research for the Sociology of Education. New York, NY: Greenwood Publishing Group.

Radford, A. W. (2013). *Top student, top school?: How social class shapes where valedictorians go to college*. Chicago, IL: University of Chicago Press.

Radhika, Panjawni (2008, November 28). Pill Hill' still destination of medical companies. *Mississauga News.* Retrieved on October 1st, 2014 from http://www.mississauga.com/news-story/3140829--pill-hill-still-destination-of-medical-companies/

Sachaie, K. (2011). Representation on college and university websites: An approach using critical discourse analysis (Doctoral dissertation). Retrieved from http://www.ir.uiowa.edu/etd/1071

Sauder, M., & Lancaster, R. (2006). Do rankings matter? The effects of US News & World Report rankings on the admissions process of law schools. Law & society review, 40(1), 105-134.

Sauder, M., & Espeland, W. N. (2009). The discipline of rankings: Tight coupling and organizational change. *American Sociological Review*, *74*(1), 63-82.

Schofer, E., & Meyer, J. W. (2005). The worldwide expansion of higher education in the twentieth century. *American Sociological Review*, *70*(6), 898-920.

Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, *51*(1), 1-17.

Scott, W. R. (1981*). Rational, natural, and open systems*. Englewood Cliffs, NJ: Prentice-Hall.

Sheridan College (2014). 'Support for Sheridan Program from Pharmaceutical Company Pantheon Inc.'. Retrieved from https://www.sheridancollege.ca/news-and-events/news/support-for-sheridan-program-from-patheon-inc.aspx

Sidanius J, Pratto F. 1999. Social Dominance: An Intergroup Theory of Social Hierarchy and Oppression. New York: Cambridge University Press

Singh, J. V., Tucker, D. J., & House, R. J. (1986). Organizational legitimacy and the liability of newness. *Administrative Science Quarterly*, *31*(2), 171-193.

Skolnik, M. (2010). A look back at the decision on the transfer function at the founding of Ontario's colleges of applied arts and technology. *Canadian Journal of Higher Education*, *40*(2), 1-17.

Slaughter, S., & Leslie, L. L. (1997). Academic capitalism: Politics, policies, and the entrepreneurial university. Baltimore, MD: Johns Hopkins University Press.

Slaughter, S. & Rhodes, G. (2004). *Academic capitalism and the new economy: Markets, state, and higher education*. Baltimore, MD: John Hopkins University Press.

Small, M. L. (2009). *Unanticipated gains: Origins of network inequality in everyday life*. New York, NY: Oxford University Press.

Small, M. L. (2011). How to conduct a mixed methods study: Recent trends in a rapidly growing literature. *Annual Review of Sociology*, *37*(1), 57-86.

Stanyon, W. (2003). College university collaboration: An Ontario perspective. *College Quarterly*, 6 (1). Retrieved on January 17th, 2015 from http://collegequarterly.ca/2003-vol06-num01-fall/stanyon.html

Statistics Canada. 2015. Table 477-0067- National graduates survey, estimated gross annual earnings of graduates working full-time, by location of residence at interview, level of study and sex, every 5 years (dollars), CANSIM (database).

Statistics Canada (2011). Top Industries for the employed labour force, Mississauga (City), Ontario. Table 4. Retrieved on January 15th, 2015 from http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/fogs-spg/Pages/FOG.cfm?lang=E&level=4&GeoCode=3521005

Statistics Canada (2011). National Household Survey, Catalogue no. 99-012-X2011062.

Statistics Canada (2014a). Section A – Major Construction Projects. Retrieved on January 15th, 2015 from http://www6.mississauga.ca/onlinemaps/planbldg/eCityReports/Building/Statistics_Canada_July2014.pdf

Statistics Canada (2014b). Section A – Major Construction Projects. Retrieved on January 15th, 2015 from http://www6.mississauga.ca/onlinemaps/planbldg/eCityReports/Building/Statistics_Canada_FEB2014.pdf

Statistics Canada (2015). Section A – Major Construction Projects. Retrieved on January 15th, 2015 from http://www6.mississauga.ca/onlinemaps/planbldg/eCityReports/Building/Statistics_Canada_Jan2015.pdf

Steele, K. (2008). Classifying Universities: Institutional Brands from the Market's Perspective. Retrieved from http://eduvation.ca/wp-content/uploads/classifying-universities.pdf

Stevens, M. L. (2007). Creating a class: College admissions and the education of elites. Cambridge, MA: Harvard University Press.

Stevens, M. L. (2008). Culture and education. *The ANNALS of the American Academy of Political and Social Science*, *619*(1), 97-113.

Stevens, M. L., Armstrong, E. A., & Arum, R. (2008). Sieve, incubator, temple, hub: Empirical and theoretical advances in the sociology of higher education. *Annual Review of Sociology*, *34*, 127-151.

Stinchcombe, A. L. (1990). *Information and organizations*. Los Angeles, CA: University of California Press.

Swaminathan, A. (1998). Entry into new market segments in mature industries: Endogenous and exogenous segmentation in the US brewing industry. *Strategic Management Journal*, 19(4), 389-404.

Swedberg, R. (1991). Major traditions of economic sociology. *Annual Review of Sociology*, 17, 251-276.

Swedberg, R. (1997). New economic sociology: What has been accomplished, what is ahead?. *Acta Sociologica*, *40*(2), 161-182.

Sweet, R. (1993). A profile of private vocational training schools. *Canadian Journal of Higher Education*, *23*(3), 36-63.

Tajfel H. & Turner, JC. l985. The social identity theory of intergroup behavior. In Psychology of Intergroup Relations, (ed.) Worchel, S. & Austin, W.G., p. 7–24. Chicago, IL: Nelson-Hall.

Taylor, F. W. (1911). *The principles of scientific management*. New York, NY: Harper & Brothers Publishers.

Thelin, J. R. (2004). *A history of American higher education*. Baltimore, MD: John Hopkins University Press.

Thelin, J. R. (2009). Archives and the cure for institutional amnesia: college and university SAGA as part of the campus memory. *Journal of Archival Organization*, *7*(1-2), 4-15.

Thiessen, V. (2009). The Pursuit of Postsecondary Education: A Comparison of First Nations, African, Asian, and European Canadian Youth*.*Canadian Review of Sociology*, *46*(1), 5-37.

Thomason, Adam. (2015). "Giant Statue of Mascot at Montclair State U. Will Cost $210,000." *The Chronicle*. Retrieved on September 20th, 2014 from: http://chronicle.com/blogs/ ticker/jp/giant-statue-of-mascot-at-montclair-state-u-will-cost-210000?cid=at&utm_source=at&utm_medium=en

Thompson, R., & Simmons, R. (2013). Social mobility and post-compulsory education: revisiting Boudon's model of social opportunity. *British Journal of Sociology of Education*, *34*(5-6), 744-765.

Tobolowsky, B. F., & Lowery, J. W. (2006). Commercializing college: An analysis of college representations during bowl games. *International Journal of Educational Advancement*, *6*(3), 232-242.

Toronto-South Local Immigration Partnership [TLIP]. (2013). Hard Lessons: Newcomers and Ontario Private Colleges. Retrieved from http://p2pcanada.ca/files/2013/11/Haweiya-Egeh-Hard-Lessons-Newcomers-and-Ontario-Private-Colleges.pdf

Trow, M. (1970). Reflections on the transition from mass to universal higher education. *Daedalus*, 99(1), 1-42

TTSAO. (2014). Accredited Schools. Retrieved on September 2nd, 2014 from http://ttsao.com/Accredited-Schools.htm

TTSAO. (2014a). About us. Retrieved on September 2nd, 2014 from http://ttsao.com/About-Us.htm

TSSAO. (2014b). Truck Training School Association of Ontario. Retrieved on September 2nd, 2014 fromhttp://northernacademy.ca/Truck_Training_Association_NATT.pdf

Tyndale University (2012). Tyndale to sell its ballyconnor court campus. Retrieved from https://www.tyndale.ca/news/tyndale-sell-its-ballyconnor-court-campus

University of Waterloo (2014b). University of Wateloo proposals for Major Capacity Expansion program. Retrieved on September 11, 2014 from http://www.tcu.gov.on.ca/pepg/publications/vision/notices/waterloo.pdf

University of Waterloo (2014a). University of Waterloo approves $88-million Engineering 7 Building. Retrieved on September 16th, 2014 from https://uwaterloo.ca/news/news/university-waterloo-approves-88-million-engineering-7

University of Ontario Institute of Technology. (n.d.) Joint Campus Master Plan. Retrieved on September 14th, 2014 from http://www.campusmasterplan.ca/sites/default/files/pdf/Executive%20Summary%20-%20Vision%20and%20Directions%20Report.pdf

University of British Columbia (2009). The Economic Impact of the University of British Columbia. Retrieved on September 10th, 2014 from http://www.pair.ubc.ca/reports/EconomicImpact2009.pdf

University of Calgary. (2013). Senate Strategy for 2013-2014. Retrieved on September 15th, 2014 from http://www.ucalgary.ca/senate/files/senate/senate-strategy-for-2013-2014.pdf

University of Guelph. (2014). Gryphon statue unveiled at entrance to University of Guelph. Retrieved on September 18th, 2014 from http://www.uoguelph.ca/news/2014/06/gryphon_statue_unveiled

_entrance_uguelph.html

University of Manitoba (2014). About. Retrieved from September 15th, 2014 from http://umanitoba.ca/faculties/education/directory/about.html

University of Ottawa (2013). History. Retrieved on September 14th, 2014 from http://www.archives.uottawa.ca/eng/history.html

University of Ottawa (2014). Strategic Plan. Retrieved on September 16th, 2014 from http://www.uottawa.ca/about/sites/www.uottawa.ca.about/files/destination-2020-strategic-plan.pdf

University of Toronto (2013). History. Retrieved on September 12th, 2014 from http://www.greatpast.utoronto.ca/bios/history1.asp

UTM (2012a). Industrial Inroads. Retrieved from http://www.utm.utoronto.ca/main-news-research-profile-research-news-general/industrial-inroads

UTM (2014). IMI Certificate in Professional Development: Business Practises for Scientists. Retrieved from http://www.utm.utoronto.ca/imi/imi-certificate-professional-development-business-practices-scientists

UTM (2014b). Pharmaceutical and related careers. Retrieved from http://www.utm.utoronto.ca/careers/sites/files/careers/public/shared/pdf/panel_packages/pharmaceutical-and-related-careers.pdf

UTM (n.d). Our Internships. Retrieved from http://www.utm.utoronto.ca/mbiotech/sites/files/mbiotech/public/shared/pdfs/Informational_Brochure.pdf

UTM (n.d.[a]). Class of 2012: Yusuf Ibrahim. Retrieved from http://www.utm.utoronto.ca/mbiotech/mbiotech/class-2012-yusuf-ibrahim

UTM (n.d.[b]). Class of 2006: Viviana Garay. Retrieved from http://www.utm.utoronto.ca/mbiotech/class-2006-viviana-garay

UTM (n.d.[c]). Class of 2005: Jeffrey Launay. Retrieved from http://www.utm.utoronto.ca/mbiotech/class-2005-jeffrey-launay

UTM (n.d.[d]). Class of 2011: Miki Stanikic. Retrieved from http://www.utm.utoronto.ca/mbiotech/mbiotech/class-2011-miki-stanikic

UTM (n.d.[e]). Class of 2012: Peter Marszal. Retrieved from http://www.utm.utoronto.ca/mbiotech/mbiotech/class-2012-peter-marszal

Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American Sociological Review, 61*(4) 674-698

Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly, 42*(1), 35-67.

Uzzi, B. (1999). Embeddedness in the making of financial capital: How social relations and networks benefit firms seeking financing. *American Sociological Review, 64*(4), 481-505.

Uzzi, B., & Gillespie, J. J. (2002). Knowledge spillover in corporate financing networks: Embeddedness and the firm's debt performance. *Strategic Management Journal, 23*(7), 595-618.

Uzzi, B., & Lancaster, R. (2004). Embeddedness and price formation in the corporate law market. *American Sociological Review, 69*(3), 319-344.

U15. (2014). History & Milestones. Retrieved on September 1st, 2014 from http://u15.ca/history-milestones.

van Zanden, J. L., Baten, J., Mira d'Ercole, M., Rijpma, A., Smith, C., & Timmer, M. (2014). How Was Life?: Global Well-being since 1820. OECD Publishing.

Vaughan, D. (1982). Toward understanding unlawful organizational behavior. Michigan Law Review, *80*(7), 1377-1402.

Walker, K. P. (2001). Opening the door to the baccalaureate degree. *Community College Review, 29*(2), 18-28.

Wallace, W. S. (1948). The Life and Work of George M. Wrong. *Canadian Historical Review, 29*(3), 229-239.

Walters, D. (2003). "Recycling": The Economic Implications of Obtaining Additional Post-secondary Credentials at Lower or Equivalent Levels. *Canadian Review of Sociology, 40*(4), 463-480

Walters, D. (2004). A comparison of the labour market outcomes of postsecondary graduates of various levels and fields over a four-cohort period. *Canadian Journal of Sociology, 29*(1), 1-27.

Waterloo (2009). 'Campus Master Plan Update'. Retrieved on October 8th, 2014 from http://plantoperations.uwaterloo.ca/cmp/2009%20Campus%20Master%20Plan.pdf

Webb, Margaret (2004). A Tale of Two Campuses. UofT Magazine. Retrieved from http://www.magazine.utoronto.ca/feature/u-of-t-downtown-vs-suburban-campuses-tri-campus-system/

Weerts, D. J., & Ronca, J. M. (2007). Profiles of Supportive Alumni: Donors, Volunteers, and Those Who "Do It All". *International Journal of Educational Advancement*, *7*(1), 20-34.

Weick, K. E. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly*, 21(1), 1-19.

Weidenhammer, E., & Gross, A. (2013). Museums and scientific material culture at the University of Toronto. *Studies in History and Philosophy of Science*, *44*(4), 725-734.

Weingarten, H. P., & Deller, F. (2010). *The Benefits of Greater Differentiation of Ontario's University Sector: Final Report*. Toronto, ON: Higher Education Quality Council of Ontario.

Weingarten, H. P., Hicks, M., Jonker, L., & Liu, S. (2013). *The Diversity of Ontario's Universities: A Data Set to Inform the Differentiation Discussion*. Toronto, ON: Higher Education Quality Council of Ontario.

Welding Career Colleges[WCC]. (2014). Mission. Retrieved on September 2nd, 2014 from http://www.weldingschoolsofontario.com/

Western University (2007). Campus Master Plan. Retrieved from http://www.ipb.uwo.ca/documents/campus_master_plan_final_sept2007.pdf

Western University (2008). Background. Retrieved from http://www.uwo.ca/pvp/strategic_plan/master_plan/background.htm

Western University (2012). Asbestos Control Program. Retrieved from http://www.uwo.ca/hr/form_doc/health_safety/doc/procedures/asbestos_control_program.pdF

Western University (2013). Our History. Retrieved on September 10th, 2014 from http://www.uwo.ca/about/whoweare/history.html

Western University (2014). 'Industry Connections'. Retrieved from http://www.eng.uwo.ca/external/IndustyConnections.htm

Western University (2015). 'Internship Program'. Retrieved from. http://www.eng.uwo.ca/coop/future_students/internship.html

Western University (2015). Campus Master Plan 2015. Retrieved from http://www.uwo.ca/ipb/publicaccountability/documents/WU_Campus_Masterplan_Feb10_2015a.pdf

Wilfrid Laurier University. (2013). Campus Master Plan. Retrieved from http://www.wlu.ca/documents/41968/Campus_Master_Plan_Final.pdf

Williamson, O. E. (1974). The economics of antitrust: Transaction cost considerations. *University of Pennsylvania Law Review*, *122*(6) 1439-1496.

Williamson, O. E. (1975). Markets and hierarchies. Englewood Cliffs, NJ: Prentice-Hall.

Williamson, O. E. (1979). Transaction-cost economics: the governance of contractual relations. *The Journal of Law & Economics*, *22*(2), 233-261.

Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology*, 87(3), 548-577.

Wilson, P. J. (1974). Filcher of good names: An enquiry into anthropology and gossip. *Man*, *9*(1), 93-102.

Wolf, A. (2002). *Does education matter? Myths about education and economic growth*. London, UK: Penguin.

Woodside, A. G., & Wilson, E. J. (2003). Case study research methods for theory building. *Journal of Business & Industrial Marketing*, *18*(6/7), 493-508.

Yoo, S., & Jin, J. (2004). Evaluation of the home page of the top 100 university websites. *Academy of Information and Management Sciences*, *8*(2), 57-60.

York University (2003). New signs foster a sense of pride and place. Retrieved on January 15, 2015 from http://yfile.news.yorku.ca/2003/09/03/new-signs-foster-a-sense-of-pride-and-place/

3M. (2014). Local History. Retrieved on September 10, 2014 from http://solutions.3mcanada.ca/wps/portal/3M/en_CA/about-3M/information/more-info/history/local