The Emergence of Regional Cultures and Practices: A Comparative Study of Canadian Software Entrepreneurship

by

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A thesis submitted in conformity with the requirements for the degree of Doctor of Philosophy
Graduate Department of Geography and Program in Planning University of Toronto

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Abstract

Despite the ‘cultural turn’ in economic geography, the discipline has yet to conclusively describe the processes through which culture influences actors’ daily economic and social practices. Without a better understanding of the role of culture, it is difficult to explain the emergence and influence of the heterogeneous landscapes of regional business culture we readily observe. This problem is particularly acute in the study of entrepreneurial environments, where regional culture is theorized to play an important role in the local entrepreneurship process. This dissertation proposes an alternative approach to culture which draws on the work of Pierre Bourdieu to reveal the underlying social processes connecting culture with entrepreneurial action. Through qualitative case studies of software entrepreneurs in three Canadian cities — Kitchener-Waterloo, Ontario; Ottawa, Ontario and Calgary, Alberta — this dissertation examines the emergence and evolution of regional cultures and how they have helped to create distinct contexts which encourage unique forms of entrepreneurial practices, outlooks and strategies. This new perspective allows for a more detailed and dynamic analysis of regional cultures and provides new tools for researchers and policy makers to understand the role of cultures within regional economic development.
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Chapter 1
Introduction: The Place of Culture in Economic Geography

1. The Struggle Over Culture

The discipline of economic geography has struggled on both a conceptual and empirical level over how to address culture. While the discipline’s so-called ‘cultural turn’ represented a sustained attempt to integrate notions of culture into studies of the economic landscape, the manner in which culture affects economic activities remains under-theorized (Sayer, 1997; Castree, 2004). Culture is too often viewed as a ‘black box,’ which affects economic or social actions but remains opaque to a critical analysis of its nature and influence (Warf, 2012). Consequently, culture is too often thought of as a static entity which has no discernible origin nor clear evolutionary path. From this perspective, culture is a deterministic force that causes certain actions to occur and does not leave room for nuance, contingency or individual agency. Such a perspective leads to an impoverished explanation of human activity. It lacks a way to theorize the connections between cultural structures and the actions and practices individuals employ as part of their daily lives. Identifying this connecting mechanism is an important step in studying how actors are affected by culture, rather than simply describing the influence of culture. Such a mechanism would produce a better model for the role of culture, helping to explain why similar actors may be affected differently by the same cultural forces.

Such problems are not surprising. Culture is a very confusing idea without any agreed definition of what it is. Definitions include particular forms of art (e.g. classical music) to ethnicity or generalized world views. Williams (1976) identified more than fifty uses of the term. Such diversity makes it difficult to establish conceptual and empirical rigor when using culture. As a result, studies of culture within economic geography (as well as other disciplines) tend to be either descriptive case studies that contribute little to broader theories or deterministic models that proxy culture through national or ethnic variables. Without a rigorous approach to culture it is difficult to critically compare the role of culture between regions. As Peck and Theodore (2007 p. 764) argue, “[t]he relative paucity of rigorously comparative research designs in the field of economic geography, together with what appears to be a continuing preference for single-location, single-industry or single-institution case studies, has undoubtedly impeded the
discipline’s capacity to communicate with the varieties branch(es) of heterodox economics.”
This problem can be partially overcome by developing a more precise way of understanding

culture and the ways in which it affects economic activities and decisions.

This is an acute issue in the study of entrepreneurship. Entrepreneurship is not simply an
economic process, but one heavily influenced by social and cultural beliefs and outlooks.
Without a framework that links culture with entrepreneurs’ individual actions, is difficult to
identify the role, if any, played by culture in the entrepreneurship process. Without this linkage,
many studies of entrepreneurial culture become deterministic; in essence arguing that a single
aspect of culture, such as ethnicity or location, leads to a predicted outcome. This ignores the
cultural heterogeneity found within these groups, which produces a wide array of different
practices and strategies even within homogeneous communities. The work of Geert Hofstede
(2001) exemplifies this approach by using large surveys to reduce the variegated cultures of
countries to a few data points. This had lead to a stream of research making very broad cultural
claims such as that the ‘values and beliefs’ of Native Hawaiians are: “fun loving, generosity,
hospitality, spirituality….“ (Morris and Schindehutte, 2005 p. 458). Such simplistic explanations
trade an in-depth examination of how culture influences economic decisions for empirical
parsimony. Without a deeper perspective, it is impossible to understand how something as
ephemeral as culture can have a direct, material influence on the way in which entrepreneurs
start and grow a new firm. While on the surface, qualitative studies may be more amenable to
such approaches, such studies often lack a cohesive theory of culture that would allow their
findings to be generalized to other regions. These rudimentary approaches to culture cannot
effectively explain how culture influences both the rates and nature of firm formation within a
community or why they differ from region to region. Given the importance of entrepreneurship
to regional economic development, understanding the role of culture is critical to understanding
differences in regions’ experiences with entrepreneurship and formulating effective policies that
work in tandem with existing local cultural and social structures.

The goal of this dissertation is to critically conceptualize and examine the emergence and
role of culture in the entrepreneurship process. In particular, the aim is to investigate the social
mechanisms that link culture and action; not simply examining culture’s influence but rather to
reveal the manner in which culture influences entrepreneurial practices and decisions. By
focusing on these mechanisms, rather than culture itself, the complicated, multifaceted role of culture within the entrepreneurship process can be better understood. The main area of this inquiry investigates are regionally based cultures. These cultures are theorized to have a strong influence over how entrepreneurship develops in a region, by creating either a supportive or hostile environment for entrepreneurial endeavors. However, a relational perspective of culture is necessary. While place-based cultures are important, they are not the only culture which influences the entrepreneurship process. The relationships between local cultures as well as ethnic, national, industrial and a variety of other cultures must be considered.

2. Bourdieuan Approaches to Culture

Despite its importance within existing debates, in many studies culture remains too ill-defined to be an effective tool to study the entrepreneurship process. An alternative approach is needed, one that can explicate the mechanisms linking social structures with economic actions without falling into the same trap of over-simplicity and determinism found in existing approaches. The work of Pierre Bourdieu (1977; 1990; Bourdieu and Wacquant, 1992) offers such an approach. Bourdieu argues that practices are not simply the outcomes of cultures or social traditions but rather emerge from actors’ own understanding of such traditions based on their own position within a social order. These social orders, called fields, have objective rules and hierarchies. Rules are interpreted through actors’ habitus, their internalized dispositions and knowledge about the field. In essence, practices are employed not because a culture dictates them but because an individual actor feels that those practices make the most sense given their understanding of their social context. That is to say, an entrepreneur in Silicon Valley does not create a high-tech startup because the local culture of the region compels her to, but rather the local social context (the field) and her own internalized thoughts about entrepreneurship (habitus), combine to create an environment that encourages starting high-tech firms.

This approach has several advantages over existing cultural explanations. The first is an explicit mechanism linking social structure with individual action that avoids both deterministic cultural explanations as well as more chaotic, agency-based explanations of human action. Fields provide a social environment where individual actors can choose their own practices and strategies based on their understanding of the rules that apply to them. Actors choose their
practices because they make the most sense given their present circumstances and their understanding of the social rules that surround them. Therefore, an important empirical goal needs to be to understand why particular patterns of practices make sense depending on the actors’ understandings of the social rules they operate within. Second, this approach provides a way to rigorously compare the influence of social structures like culture between different groups of actors in different locations. By studying both the objective social rules of fields and actors’ understanding of them, the reasons underlying differences in sustained patterns of practices between regions, industries, or communities can be identified. Third, this approach specifically addresses how fields and practices evolve over time in response to both exogenous shocks and endogenous changes. This provides a dynamic account of the ever-shifting influence of social structures rather than static accounts of culture.

This research addresses three major topics. First, it addresses how a Bourdieuian framework can improve existing cultural approaches to the geographies of entrepreneurship. Empirically, this study investigates if and how actors choose practices that fit within the competing rule-sets of local and non-local fields. The study also investigates how actors become embedded within different fields and how their habitus adjusts to local and non-local fields and the effect of this adjustment entrepreneurial practices and successes. Finally, the dissertation analyzes the emergence of local fields relative to local economic histories and their relationships with non-local fields. Through these research questions, this study argues that local social structures like culture have a profound influence on the entrepreneurship process and that a Bourdieuian approach is a better way to understand how locally-based social structures create a heterogeneous geography of entrepreneurship.

Second, this research integrates Bourdieu’s sociology into a geographic framework. While economic geographers frequently employ certain aspects of Bourdieu’s work such as social capital (e.g. Schutjens and Volker, 2010) and habitus (e.g. Ley, 2003), recent work has only engaged with limited aspects of Bourdieu’s work, such as social capital or habitus. This differs from earlier work in economic and human geography, which drew on Bourdieu’s larger oeuvre as part of a broader discussion of the relationships between structure and agency (e.g. Gregory, 1981; Pred, 1984; Thrift, 1990). Nevertheless, this work was largely conceptual with respect to culture and there has been little empirical integration of this literature into
contemporary economic geography. While there is a long tradition of Bourdieu within economic
topography it is far from clear how these ideas can be fully integrated into the discipline. As a
sociologist, Bourdieu gave little thought to the material geography of his work. A geographic
perspective of Bourdieu is more than assigning each region its own field; a relational approach is
needed. Such an approach recognizes that local conditions are the result of forces operating at a
variety of scales and locations (e.g. Bathelt and Glücker, 2003; Boggs and Rantisi 2003; Bathelt
and Glücker, 2011). The goal of this approach is not to create a flat, static geography of fields
but rather to investigate how entrepreneurial cultures emerge from both local economic and
social histories as well as other forces that have influenced a region.

The integration of Bourdieu into the wider discipline of economic geography has
multiple implications. It continues the discipline’s movement away from simplistic
understandings of culture towards a broader perspective that proactively addresses issues of
change, relation and causality. It provides a way of understanding how social structures
(including culture) and individual dispositions combine to produce sustained patterns of
economic practices and strategies within a region or community. This furthers economic
geography’s long standing interest in understanding the role of social forces in economic activity
while at the same time providing an empirically oriented framework to understanding this role.
Second, the identification of a mechanism linking social structure, individual dispositions and
practice is key for the study of the geography of entrepreneurship. Existing work focuses mainly
on the role of formal institutions in creating either supportive or destructive regional
entrepreneurial contexts. Through a Bourdieuan perspective, it becomes clear that the nature of
these entrepreneurial environments is related to the dominant fields within a region, including
locally-based fields as well as industrial or other economic and social fields. Such fields do more
than structure the institutions found within the environment, they create an awareness amongst
actors of what practices — such as starting, investing in, or working at an entrepreneurial venture
— make the most sense given their contexts and awareness of the fields that surround them.

The importance of a Bourdieuan approach goes beyond the study of entrepreneurship. It
represents a useful contribution to of economic geography’s continuing engagement with culture.
A Bourdieuan approach offers both a theoretical and empirical framework to begin to open the
black box of culture and critically analyze its role within economic systems. This is not a re-
branding of culture: fields do not represent a particular ‘culture.’ Instead, a Bourdieuan approach to economic geography examines how social structures, including culture, combined with internal dispositions and power relationships within groups, produce stabilized patterns of practices within a particular place or organization. This has the same end-goal as cultural analysis — understanding the influence of social forces on economic decisions — while avoiding the ‘fuzzyness’ of culture as an analytical concept (Markusen, 1999). The overarching goal of this research is to examine how these relationships between social structures and individual practices differ between regions and how they produce what is commonly labeled as ‘regional cultures.’

This Bourdieuan approach is used to examine the practices of entrepreneurs in the software sector of three Canadian cities: Ottawa and Kitchener-Waterloo, Ontario and Calgary, Alberta. Each city’s economic and social history — Waterloo as a center of both traditional manufacturing and high-tech development, Ottawa as the seat of the federal government and Calgary as a hub of natural resource development — has arguably created local fields that have influenced entrepreneurial practices within each region. Entrepreneurs’ practices, decisions and strategies emerge from their understandings of their relationship to these local fields and how the fields’ rules apply to them. Sustained patterns of entrepreneurial practices have emerged in each city through the combination of local and non-local fields along with individual habitus. However, it is a difficult empirical project to separate out the structure of the local field from more generic social and economic differences between regions that may influence the entrepreneurship process. For this reason, all three case study cities are mid-sized cities with high historical rates of technology entrepreneurship and fairly homogeneous ethnic populations.

The focus of this research is to identify patterns of entrepreneurial practices along with the individual rationales underlying them. The practices are approached through a qualitative analysis based on semi-structured interviews with 110 entrepreneurs, investors and economic development officials from the three cities (see Chapter 4). The bulk of these interviews were conducted with a random sample of software entrepreneurs, which helps create a representative view of the common patterns of entrepreneurial practices found within the communities. These interviews are used to examine the connections between the practices entrepreneurs employed
3. Structure of Argument and Analysis

The following chapter provides a critical account of the use of culture within both economic geography as well as the wider discipline of entrepreneurship research. It discusses the problematic ways in which culture has been employed to study both the emergence of unique local economies as well as the creation of entrepreneurial environments. The third chapter introduces the work of Pierre Bourdieu and argues that his theory of social behavior is an effective tool for understanding the emergence, evolution and role of regional entrepreneurial cultures. The chapter places the work of Bourdieu into a geographic framework and discusses its connections with entrepreneurship and culture. The fourth chapter provides an overview of the dissertation’s empirical methodology. This chapter discusses the rationale behind the three comparative case studies of Waterloo, Ottawa and Calgary as well as the structure of the semi-structured interviews and the characteristics of the three study populations (entrepreneurs, investors and economic development officials.)

The following three chapters present the cases of Waterloo, Ottawa and Calgary in turn. Each chapter begins with a historical overview of the region’s local field and discusses how it has contributed to each area’s entrepreneurial culture. This is followed by an analysis of how the local field and culture influence four categories of entrepreneurial practices: those relating to the initial creation of the firm, practices employed by entrepreneurs as they grow their firms, their practices regarding financing and finally their networking practices with other entrepreneurs and clients. The focus in on how entrepreneurs’ practices emerge from their understanding of the social rules, norms and traditions of entrepreneurship in the region.

Each empirical chapter is organized around a central theme. In Waterloo, this is the historical emergence of the region’s entrepreneurial culture, which is believed to encourage the formation high-tech, high-growth startups. However, the chapter discusses how this culture is not universal but instead impacts different types of entrepreneurs in different ways. Entrepreneurs who do not meet the field-based expectations of what an entrepreneur should be, due to factors such as their age, gender or education, have a more difficult time accessing resources found
within the local field. The chapter on Ottawa examines the evolution of the city’s local field and entrepreneurial culture in response to both external crises and internal changes. This evolution is illustrated through the rise in prominence of types of entrepreneurial strategies based on reducing the risks associated with growth. The final empirical chapter studies how the cultural aspects of the oil industry have materialized within Calgary’s local field and how this has created a unique entrepreneurial culture different from those found in Ottawa or Waterloo. In particular, this chapter examines how the high value placed on economic capital within Calgary’s field has led to unique sets of entrepreneurial practices based on generating high rates of growth which would be seen as illegitimate within Waterloo or Ottawa.

The dissertation concludes by considering both the implications of a Bourdieuan perspective on both economic geography research as well as entrepreneurship policy. Within economic geography, the introduction of a Bourdieuan perspective provides a needed framework to understand the complex ways in which regionally-based cultures emerge, change and influence economic actions on a variety of scales. Within the policy realm, the empirical results indicate that programs designed to encourage entrepreneurship must be carefully planned to work within the preexisting understandings of entrepreneurship within a region. This suggests that programs designed at the provincial or federal level will not be able to take advantage of local cultural attributes and will thus be less effective at promoting the types of entrepreneurship that create sustainable economic development.
Chapter 2
Culture, Economic Geography and Entrepreneurship

1. Introduction

The past four decades have seen a shift within economic geography away from quantitative modeling of economic phenomena towards more qualitative social and political approaches (Barnes, 2001; Scott, 2004a). This shift away from positivist perspectives has led to a deeper and more nuanced appreciation for the links between economic and cultural forces, which had previously been viewed as two separate spheres of analysis (Thrift, 1994; Shields, 2001; Throsby 2001). In economic geography this movement has been termed the ‘culture turn’ and has spurred increased attention towards the role of culture in modern economies. Similar shifts have occurred in economic sociology, management science and economics, though with differing methodologies and paradigms (Peck, 2005). Though the relative merits of the cultural turn have been critiqued and debated (e.g Amin and Thrift, 2000; Rodríguez-Pose, 2001), it has generally been viewed as a positive contribution that identifies culture as an important influence over the economic landscape (Scott, 2004b). However, despite the voluminous amount of research examining the mutual interactions between culture, economy and geography, two major problems persist in this literature. The first is the lack rigorous definition of culture. The second is the absence of a clear understanding of the processes by which culture and economy mutually constitute and affect one another.

The lack of a comprehensive definition of culture is not surprising, the word has multiple meanings and is used differently within a variety of diverse contexts. In an early study, Kroeber and Kluckhorn (1952) provide 164 different definitions of the word. The proliferation of definitions has made it difficult for researchers to communicate effectively with each other (Castree, 2004). Culture has been viewed as a group’s shared mental outlook, a pattern of particular creative artistic practices or a set of values common to a people to list just a few uses. However, Mitchell (1995; 1996) argues that ‘culture’ is not an entity or a thing that can be conclusively defined. Rather, it is best understood as a discourse. The belief in culture, rather than culture itself, gives it power. However, even if a general definition of culture is impossible,
individual studies often lack a working definition of culture that would allow for comparisons with other studies.

Given the challenges in defining culture, it follows that studying the processes by which culture affects economic activity is also difficult. The challenges of operationalizing questions of culture makes the study of the linkages between culture and economy difficult. However, the existence of such linkages is unquestionable. There is no lack of studies that show examples of the influence that culture has on economic activities (for example, Power, 2002; Gibson, 2003; Curid and Connolly, 2008), but few authors have been able to identify the actual processes that produce and reproduce this influence. Without an understanding of the causal forces behind the relationships between economy and culture, we are left with descriptive anecdotes that do not substantively advance the our general understudying. While some researchers have provided useful descriptions of these processes (e.g Gertler, 1995; Uzzi, 1999; James, 2005), such work remains uncommon.

While the definition of culture used in this study will be detailed in both this and the next chapter, a brief discussion is useful. Culture is understood here as a way of viewing the world that is common to a group of actors. Such a group may be ethnically, religiously or socio-culturally defined or have a particular regional or industrial boundary. While there is a great deal of variability within a group and overlap between groups, a common culture implies that variation within groups is less than variation between them. Shared outlooks clearly affect how actors interpret the world and decide on the best or most sensible actions. However, while such a definition is useful in its generality, it is problematic in its specifics. There are contentious issues in how individuals are classified into seemingly homogeneous groups (Hsu and Saxenian, 2000; Raghuram and Strange, 2001). Nevertheless, this is a useful starting point for a larger discussion about the role of culture in analyzing economic practices.

This chapter examines the ways in which culture is used to explain economic phenomenon, especially in the study of entrepreneurship. The discussion begins in the next section with a deeper examination of the various definitions that have been applied to culture, both within economic geography and the broader field of entrepreneurship studies. Both research fields have suffered from unclear definitions of culture and indefinite understandings of the
actual processes that link economy and culture. In the third section, research on the geography of entrepreneurship is discussed more specifically. Culture has become a powerful variable in explaining why some regions appear to have more active entrepreneurial economies. However, the same problems of definition and process discussed in the prior section emerge in this field of research as well.

2. Culture and Economic Geography

2.1. Changing Views of Culture

Geographers’ understanding of culture has changed substantially over the past century. Geographers’ earliest views of culture were informed by the Sauer School, which saw culture as a real force which was independent of individual actors or population but still remained a crucial influence on their daily lives and activities (Zelinsky, 1973; Mitchell, 2000). This perspective, termed the super-organic view of culture, was criticized in the 1980s for its materialistic and deterministic conceptualization of culture which “[transcends] the individual and at the same time mold his actions.” (Duncan, 1980 p. 187) This view was faulted for ‘reifying’ culture: raising it above and beyond critical analysis. (Duncan and Duncan, 2004) A new perspective, introduced by cultural geographers such as James Duncan (1980) and Peter Jackson (1989) argued that culture should not be understood as a real entity, but instead as a process through which meaning is constructed. These critiques lead to a revitalization of cultural geography with an increased focus on the production and reproduction of cultures within and between places and spaces (Mitchell, 2000).

However, by the 1990s the Sauer School’s deterministic views of culture had regained some prominence within cultural geography. Culture remained a separate analytical sphere, apart from the rest of the social world. In response, Mitchell (1995; 1996) controversially argued that culture lacks ‘ontological status’; meaning that culture is not an object or entity nor does it have any power or influence over people’s actions. Rather, he argued that culture should be viewed as a metaphor that explains how individuals and groups understand the world around them. In this sense, discourses of culture — what people understand culture to be — are more important than the study of culture itself.
Mitchell’s intervention was heavily criticized (see Cosgrove, 1996; Duncan and Duncan, 1996; Jackson, 1996) by proponents of the new cultural geography for its lack of materiality. A later commentary on Mitchell’s work by Castree (2004) extended Mitchell’s argument to include the economy, suggesting that the economy is not a real thing but rather a discourse. While Castree’s argument that neither economy nor culture exist appears exaggerated, it correctly identifies the danger of reifying culture and economy. Economic geography has been particularly guilty of this (with some exceptions discussed below) by focusing on either culture or economy without examining the interdependencies between the two. Furthermore, despite a reinvigoration in cultural theorizing by cultural geographers, most economic geography thought regarding culture has been imported from sociology, political science and organizational studies, ignoring the debates within cultural geography. This has harmed the ability of economic geographers to understand the importance of the connections between culture and economy in analyses of economic growth, decline and change.

2.2. Regional Culture and Institutions

The 1990s saw a cultural turn in economic geography, one emphasizing the importance of culture in studying regional economic landscapes. This research focus emerged out of debates over postmodernism and Marxism that occurred in the discipline throughout the 1980s (Sayer, 1997; Barnett, 1998; 2004). Work both within and outside of geography highlighted the importance of culture in production processes (Piore and Sabel, 1984; Lash and Urry, 1994; Storper, 1997), organizations (Schoenberger, 1997) and regional economic development (Saxenian, 1994). Often invoked but rarely defined, regional cultures referred to the norms, traditions and shared understandings of the world common to a region. In many cases, particular cultures can be beneficial to regional economies by promoting innovation and cooperation (for example, Henry and Pinch, 2000). Other cultures can slow development by discouraging change and adaptation to new economic conditions (James, 2005; Staber, 2007). Culture can be viewed as one of many institutional influences that both constrain and enable certain economic and social actions. Supportive institutions, such as trust and reciprocity, allow for the development of untraded interdependencies necessary for beneficial clustering and inter-firm learning and cooperation (Storper, 1997).

Though primarily descriptive, Saxenian’s (1994) work on the open versus closed cultures
of Silicon Valley and Boston has forested an entire literature on the cultural roots of regional competitive advantage. Saxenian argued that Silicon Valley’s unique culture helped create a resilient and entrepreneurial economy. Her comparative case studies are instructive because they show how, despite similar starting points (each city had several research universities and a nascent computer industry), a particular mixture of firm strategy, institutional design and government policy created an open, cooperative business culture in Silicon Valley while a different mixture created a closed business culture in Boston that lead to precipitous decline in the 1980s. Parallel with this work, Gertler (1995; 1997; 2004) highlighted the intertwining nature of culture and institutions. Institutions are the formal and informal organizations, norms and conventions that tend to create routinized patterns of behaviours amongst actors (North, 1990). As such, culture can be viewed as a type of institution that affects particular economic decisions and practices. Gertler’s work examined how cultural and institutional outlooks became embodied in technological artifacts such as industrial machinery. Far from being ephemeral social forces, cultural and institutional outlooks regarding the role of labor or investment time horizons have a direct and material effect on the design and use of technology and tools.

While institutional analysis is a powerful tool in understanding the interaction between economy and society, some aspects remain problematic. We must, in Gertler’s (2010 p. 5) words, avoid “the constant temptation to want to ‘read off’ the individual behavior from national (or local) institutional structures.” Institutions structure the social and economic contexts in which actors make their decisions, but the institutions themselves do not force particular choices (though formal and informal institutions can sanction or reward certain choices). That is to say, what actions seem the most logical or reasonable to an actor “depend on the agent’s contexts and experiences.” (Bathelt and Glücker, 2011 p. 47) Agency can be included in institutional analysis in two ways. The first is through a better understanding of how actors become embedded in institutional contexts. Actors are not equally embedded in cultural institutional contexts; newcomers to an industry or region are less deeply embedded in institutional frameworks and contexts than those who have been operating in them for years. This gives newcomers relative freedom in their actions, since they are less bound to adhere to institutional norms and traditions, but reduces their ability to access the knowledge and resources flows enabled by structural institutions.
Secondly, we must pay specific attention to how agency affects institutions. Institutional frameworks, especially informal institutions, are fundamentally human creations. Analysis of institutions must include an appreciation of how they are affected by individual actions and are changed over time. While the evolutionary economic geography literature has studied this change, it has placed the emphasis on how institutions are affected by external shocks and path-dependent growth, instead of constant, endogenous change (MacKinnon et al., 2009). Institutional approaches must deal more deeply with issues of agency and nonconforming behavior. Lacking this perspective, it is difficult to successfully explain deviations from institutional norms and how institutions change over time.

2.3. Cultural and Institutional Embeddedness

The chief challenge in studying the relationships between culture and economy is understanding why and how cultural structures and institutions affect social and economic behavior. Embeddedness is often seen as the primary link between cultural institutions and individual action (Zukin and DiMaggio, 1990). Actors are embedded in complex networks of formal and informal institutional settings, such as rules, norms, conventions and expectations. There are two approaches for understanding how this occurs. Drawing on institutional sociology and economic history, Karl Polanyi (1944) developed an early conception of embeddedness, arguing that for most of history economic relations have been embedded in and subordinate to the larger sphere of social relations. Economic systems supported social systems. However, with the development of liberal market economies, social relations became increasingly embedded in economic and production systems. Ideas of economic rationality encroached into the inner workings of society and replaced other kinds of rationality (Jessop, 2001).

Granovetter (1985) advanced Polanyi’s approach with two subtle shifts in emphasis. He first argued that economic actions are largely embedded in and constrained by networks of social relations. For Granovetter, while actors may be economically motivated, their ongoing, trust-based relationships discourage destructive (though profitable) actions. Social concerns moderate what would otherwise be economically rational decisions. This view has become dominant in the social sciences. Critically, Granovetter argued for the need to avoid both under-socialized and over-socialized views of human action. By this he meant that we cannot assume that every individual actor is atomized and cut off from social influence nor that one aspect of an actor (for
instance, class or ethnicity) can explain her actions. Instead, a more nuanced view of the relationship between structure and agency is necessary. Granovetter also shifted the focus of embeddedness from society as a whole to a single firm, organization or individual (Dacin et al., 1999). This shift in scale moved the theory away from a political economy macro-prospective towards a sociological micro-perspective more amenable to empirical analysis.

While Granovetter did not specifically discuss cultural embeddedness, others have. Unlike structural embeddedness, where actions are constrained by the fear of social sanctions if they violate rules of trust and reciprocity, cultural embeddedness refers to how actors’ social ties with others influence how they ascribe meaning to certain actions and examines how actors’ interactions affect their normative and conceptual understanding of the world around them (Pütz, 2003; Hess, 2004). However, unlike structural embeddedness, which lends itself more easily to quantification through social network analysis (e.g. Giuliani 2005), cultural embeddedness is empirically difficult to examine empirically. As Dacin et al. (1999, p. 329) argue: “too frequently, cultural embeddedness is treated only as the effect of ‘national cultures.’” However, this is not the case. Actors are embedded in a multitude of cultures, regional (Saxenian, 1994), religious (James, 2007), ethnic (Waldinger, 1995) and corporate (Schoenberger, 1997). Each of these influence how actors perceive the world around them and affect their economic and social choices.

Geographers tend to be primarily concerned with how firms, organizations and people are embedded in social, cultural and economic networks and institutions and how these manifest (or do not manifest) in particular places. Early work in this tradition focused on how firms became embedded in local economies and labor markets (Dicken and Thrift, 1992). Firms developed in tandem with local economic and social institutions and adapted their strategies to take advantage of these unique local institutions to generate competitive advantage. Firms that are embedded in local networks have an easier time accessing the tacit knowledge that is key to innovation and growth (Maskell and Malmberg, 1999; Maskell, 2001). Trust is the primary governance mechanism in the maintenance and use of social networks (Hoang and Antinomic, 2003). Local business cultures that engender trust among actors help smooth inter-firm learning and cooperation processes. However, not all regions have cultural institutions that promote this beneficial trust (Staber, 2007). The Boston area’s experience with the computer and high-tech
industry in the 1980s shows that innovative and trusting cultures do not necessarily go hand in hand. Too much trust can be similarly damaging, as the strong ties between actors make it harder to find lower-cost inputs from firms outside the deeply integrated networks, ultimately reducing competitiveness (Uzzi, 1996).

While this stream of research accentuates the importance of local institutions and networks, it has also been criticized for its ‘spatial fetishization,’ an over-focus on local embeddedness at the expense of institutions and forces outside the region (Lewis, 2002). Hess (2004) argues that the ‘spatial logic’ of embeddedness is not limited to the local. This criticism is part of a larger trend in economic geography seeking to balance the importance of the local against national and global scales (Bathelt et al., 2004; Gertler, 2005; Bathelt and Glückler, 2011). While firms are certainly embedded in local labor markets and other structures, they are also embedded in transnational financial and trade networks which have a profound affect on their overall strategies (Jones, 2008). Work on relational economic geography has attempted to address this criticism by explicitly considering the multi-scalar nature of networks (Bathelt and Glückler, 2003). Instead of focusing solely on spatial propinquity, relational economic geography highlights the role that interpersonal networks, context and contingency play in structuring the economic environment (Boggs et al., 2003).

2.4. Critiques of Culture within Economic Geography

Economic geographers (as well as economic sociologists and political economists) have successfully used culture to explain why economic outcomes diverge from neoclassical expectations. But the use of such a complex idea as culture is not without problems. Issues of structure and agency lay at the heart of critiques of cultural explanations of economic activity. Frameworks that privilege the role of social and economic structures in human actions can be generalized to many different contexts but encounter difficulty explaining individual behavior that runs counter to such structures. On the other hand, while agency-centric explanations call attention to the role that individual decisions play in larger social movements and changes, it is difficult to draw out larger implications from their very specific cases. While Granovetter (1985) famously warned about the dangers of under- or over-socialized views of human action, it is still a problem facing social scientists. A successful theory of culture must find a balance between the
twin poles of structure and agency while providing a path to generalizability and empirical analysis.

The largest problem with the use of culture in economic geography is the lack of explicit ways to theorize the connection between culture and actors’ practices, both everyday mundane actions as well as long-term strategic decisions. Embeddedness is the most popular method of describing this connection in the existing literature; the choices actors can make are constrained by the institutions and networks in which they are embedded and related to the threat of sanction or expulsion. However, explanation does little to actually understand the processes and explain how actors perceive the cultural and institutional environment they are embedded in. As James (2007, p. 395) argues:

...while ‘cultural embeddedness’ has quickly become established as a conceptual lynchpin of the regional development literature, our understanding of the causal mechanisms and everyday practices through which spatially variable sets of socio-cultural conventions, norms, attitudes, values and beliefs shape and condition firms’ economic performance remains under-specified.

Furthermore, the way actors become embedded in these contexts remains vague. When we speak about how a person or a firm is embedded in a particular cultural or institutional context, the word ‘embedded’ elides a complex set of processes that tie actors to a series of norms and conventions while, at the same time, reciprocally affecting and altering those norms. Embeddedness can result from many different processes, for instance as part of different regional cultures. Although multiple methodologies have been proposed to study the nature of embeddedness, the study of cultural embeddedness is fraught with what Oinas (1999) describes as the problem of silence. The shared understandings of the world that actors need to communicate and cooperate effectively are often largely unconscious (or in Gertler’s [2004 p. 5] words, “unselfconscious”). This makes it difficult for respondents to articulate how they became embedded in a cultural system and how that system affects their actions and behaviors, which in turn makes it harder for researchers to identify the salient mechanisms.

James’s (2005; 2007) work on high-tech firms in Mormon-dominated Salt Lake City clearly illustrates the mechanisms of embeddedness. He examines a cultural context that is harmful to high-tech businesses. The Mormon culture’s emphasis on traditional family values
and aversion to debt discourages certain practices often associated with small, high-tech companies, such as working late hours, accepting outside venture capital and even caffeine-fuelled programming sessions. In his case study, firms are embedded in a cultural context that prioritizes certain objectives (running a business in line with the teachings of the Church of Later Day Saints) and deprioritizes other objectives (maximizing profit at all costs). The Mormon culture prevalent in Salt Lake City does not directly force certain behaviours on firms, but it does create an environment that encourages these practices. Not all firms are equally embedded in this religious cultural context; some are more affected by it than others and try to balance their desire to maximize profits with the community’s cultural values. While James’ argument is interesting, his case study is an extreme one: there is no other region with a concentration of a particular cultural minority comparable to the Mormons in Salt Lake City. The processes he described likely also occur in other regions, but are less prominent due to greater cultural diversity.

Despite the interventions by James and others, the use of culture in economic geography remains problematic. The vague understanding of the mechanisms underlying culture and cultural embeddedness is related to the discipline’s larger struggles with the concept of culture. The largest issue is the continued reification of culture. In economic geography, this takes the form of seeing culture as a ‘black box’ (Warf, 2012). Culture is viewed as a thing that actors are embedded in and which is beyond their influence. A particular cultural structure is sometimes seen as directly leading to a particular set of economic outcomes. This is a naïve understanding of culture that leads to viewing culture as a causal force. To study the real-world effects of culture, it should be seen as a social process that influences economic actions and is itself affected by those very same actions. This reciprocal influence is critical to understand ongoing social and economic change within regions or industries. Just as no economy is static, neither is any culture or institution; all three constantly develop relative one another.

The term ‘culture’ has all the hallmarks of a ‘fuzzy concept’ (Markusen, 1999). It has multiple meanings, yet few studies explicitly define how the concept is used. Without precise definitions, it is difficult to critically compare case studies and develop theories of culture. This is not to say that economic geographers should be working towards one, all-encompassing understanding of culture. Rather, researchers need to carefully and rigorously specify both how they understand ‘culture’ as well as the causal mechanisms by which it influences economic and
social actions and decision making. These mechanisms need to specify not only how cultural structures and outlooks affect actors, but also how feedback from those actors’ practices reciprocally affects those cultural forces. While economic geographers may use culture in numerous ways, this research argues that it should be understood as an ongoing process rather than a static, reified entity.

Despite the difficulty of culture as an analytical concept, it is without question critical to understanding the nature of modern economic landscapes and geographies. Regional economic differences are not solely a consequence of classical economic or physical properties, but they can also be located in the social and cultural understandings, practices and outlooks found within regions. Within economic geography, the vision of a cultural economy is not controversial per se. The challenge is understanding culture that allows for a rigorous and critical analysis of both the role culture plays in economies as well as the nature of its influence, while avoiding overly parsimonious understandings that reduce culture to merely a model’s residual (Beugelsdijk, 2007).

3. Entrepreneurial Culture and Geography

The study of the geography of entrepreneurship begins from the belief that entrepreneurs’ social context, rather than their psychological characteristics, are the most important factor affecting the entrepreneurship process. This represents a rejection of the Schumpeterian “heroic economic superman” (Schumpeter, 1934 p. 85) who creates a firm in isolation but instead understanding the entrepreneurship process as deeply embedded within complex networks of resources, power relations and institutions that all play a role in the formation and growth of a new firm (Nijkamp, 2003). According to this approach, it is an entrepreneur’s social environment, rather than his personal characteristics, that has the greatest influence on the entrepreneurship process. Studies of unique psychological profiles of entrepreneurs have diminished with the realization that the entrepreneurship process is structured by external forces, not internal motivation (Henley, 2007).

Within the field of entrepreneurship studies (a broad field that includes economics, management sciences, sociology and geography), there have been four broad approaches to studying the role of the social environment in the entrepreneurship process. First, researchers have tried to examine the social and political determinants of entrepreneurial activities. Second,
quantitative approaches have sought to analyze cultural attributes through large scale surveys and find connections between these world views and observed national or ethnic differences in entrepreneurship rates and practices. Third, theoretical work on the role of context has examined how social forces ‘surround’ an economic phenomenon and lead to heterogeneity between different cases. This approach provides qualitative lens for understanding the origin of different entrepreneurship processes. Finally, work on entrepreneurial environments studies how different contexts, informal institutions and cultures come together in specific areas to produce locally unique entrepreneurship processes.

3.1. Quantification of Culture

One of the most prominent areas of quantitative research on entrepreneurship has been the geographical determinants of entrepreneurship. The work has focused on how regional economic and social characteristics, such as population growth, unemployment, human capital and industrial diversity, contribute to higher or lower levels of firm formation. However, while this research area has produced over dozens of papers over the past two decades (see Spigel, 2012 for an extended overview of this literature), its overall usefulness is limited. Because the studies are carried out in different countries within different economic contexts, it is questionable if, for example, results from the United Kingdom can be applied to understanding entrepreneurship in Canada or South Korea.

The problem of quantifying culture has been difficult for entrepreneurship researchers to overcome. While data on ethnicity is easily available through census records, Raghuram and Strange (2001) argue that commonly used ethnic categories are too homogeneous to be useful for thoughtful analyses. Attempts to identify a particular ‘Chinese’ or ‘Nigerian’ form of entrepreneurship too often rely on post-hoc rationalizations and false assumptions about casual linkages (Wilkinson, 1996). The work of Greet Hofstede (2001) opened a different path to the quantification of culture through the use of global surveys of over 100,000 IBM employees in over 100 countries. His analysis produced five cultural attributes, which he argues have a direct bearing on important economic and work behaviors such as perceptions of risk and desire for supervision. While Hofstede himself did not apply these attributes to entrepreneurship, others have (see Morris and Schindebutte, 2005; Licht and Siagel, 2006; Glaeser and Kerr, 2009). In particular, researchers have found individualism/collectivism, the desire to be individually
rewarded for individual effort, to be the most important cultural attribute for fostering entrepreneurship (Lee and Peterson, 2000).

However, the usefulness of Hofstede’s methods for studying entrepreneurship is questionable. His cultural framework has three main weaknesses for entrepreneurship research. The first is a lack of attention to the issues of applying national level data to individual behavior. While Hofstede (2001) explicitly discusses the dangers of the ecological fallacy in his book, his warnings are rarely incorporated into work that uses his data and methods. It is impossible to use the national average of cultural attributes that Hofstede supplies to make claims about individual actions. Second, Hofstede’s data homogenizes nations, ignoring both regional variations of cultural attributes and differences within a heterogeneous population due to immigration (McSweeney, 2002). Third, Hofstede’s used a specific population to generate his data: IBM employees in the 1960s and 1970s. It is questionable if this population’s cultural and psychological attributes reflect those of entrepreneurs.

3.2. Entrepreneurial Context

Given this, Hofstede’s methods are not appropriate to study the role of culture in the entrepreneurship process. Indeed, it is likely that other attempts to quantify culture will result in the same issues of over-homogenization and questions of causality. Recent work on context within organizational science provide a more nuanced approach to the role of culture. Contexts are the social forces surrounding a phenomenon that can be used to help explain the phenomenon in some way (Johns, 2006). Within previous research, context has been “underappreciated [or] controlled away,” but a new wave of research has sought to highlight the role of social contexts within what are primarily seen as economic activities (Welter, 2011 p. 173-174). By examining context, it is possible to better understand variations between cases or studies (Johns, 2001). This theory immediately points to the importance of multiple contexts, such as the intersections between ethnicity and a region’s industrial history. This helps produce a more nuanced approach to the role of contexts like culture because researchers must examine how unique sets of overlapping and reflexive contexts influence observed economic phenomena (Whetten, 2008).

From an entrepreneurial standpoint, context is important due to the socially embedded nature of starting and growing a business (Welter, 2011). Of these, geographic context — the
resources, social structures, infrastructures and economic opportunities within a region — is a key element in understanding the development of entrepreneurial firms (Tamasy, 2010; Audretsch et al. 2011). This is due to the fact that entrepreneurs draw on local sources for the resources, knowledge and support they need as they start and grow their firm. However, just as economic geography has had difficulty connecting regional cultures with economic practices, this literature also suffers from an under-theorization of the processes connecting contexts with business strategy (Whetten, 2008). While there have been attempts to more fully describe the connections between context and action (e.g. Griffen, 2007), the role of context still remains difficult to operationalize and compare between different studies. Despite such issues, this theory provides guidance on how to think about the role of culture within the entrepreneurship process. Unlike approaches like those of Hofstede that see a particular aspect of culture, such as ethnicity or location as causing particular actions, context is an influencing force that creates structured social spaces in which action play out in.

3.3. Entrepreneurial institutions and environments

While geographic investigations of entrepreneurship have not directly drawn on the contextual theories discussed above, they have employed similar approaches to understanding the role of social forces in the entrepreneurship process. Institutions are themselves a context which can affect economic and social phenomena. While industrial and economic institutions can transcend scales, local institutions are particularly influential in the entrepreneurship process. As Audretsch et al. (2011 p. 380) argue: “the fortunes of regions and entrepreneurs are intertwined: regional endowments provide opportunity and resources for entrepreneurs, while entrepreneurs simultaneously shape the local environment.” These differing local institutions contribute to a heterogeneous entrepreneurial landscape; some regions excel in producing fast-growing startups while others lag behind (Malecki, 2009). Geographers have long argued that both the location of entrepreneurship as well as its broader geography within regional and national economies and systems of innovation are critical lenses of analysis (for example, see Berg, 1997; Malecki, 1997).

Formal institutions such as entrepreneurship development programs or advantageous tax regimes depend on existing informal entrepreneurial cultural and social institutions. These informal institutions affect every aspect of the entrepreneurship process, from the first idea to
start a firm to the final exit decision. They influence the willingness of those in an entrepreneur’s social network to invest resources in a new firm. Some communities without a history of entrepreneurship have social institutions (such as a culture that punishes failure) that discourage entrepreneurial risk taking (Feldman, 2001). Informal institutional rules and norms, which are largely unwritten, are learned through observation and interaction (Henry and Pinch, 2000). New entrepreneurs observe more established entrepreneurs and consciously or unconsciously absorb their outlooks and practices. This process leads to a heterogeneous regional landscape of entrepreneurial institutions. Some local institutional arrangements are more beneficial and supportive of certain kinds of entrepreneurship (such as high-risk, high-growth entrepreneurship) than others, leading to regions that are more predisposed to these forms of entrepreneurship.

Contexts (social forces surrounding a phenomenon) and informal institutions (routinized patterns of behavior) are not necessarily cultures (collective outlooks on the world), but they do operate in similar ways. Both affect the practices actors chose to employ by structuring which practices seem sensible in different economic and social environments. However, neither economic geography nor entrepreneurship studies have been able to provide an explanation of how these forces develop and the manner in which they affect individual actions. As a result, all three concepts are applied in a haphazard manner which lacks the precision and rigour needed for a comparison of research findings between case studies.

Malecki’s (2009) work on entrepreneurial environments is the best framework to overcome the difficulties of connecting regional cultures, institutions and contexts to local entrepreneurial processes. The right combination of formal and informal institutions, networks and economic structures create what he describes as local entrepreneurial environments. Beneficial institutional, economic and historical forces combine to create a virtuous cycle that supports and strengthens entrepreneurial endeavors (Julien, 2007). Part of this environment is made up of formal institutions such as government policies and networks of support firms such as specialized lawyers and financiers (Kenney and Patton, 2005) along with informal institutions such as the presence or absence of role models, histories of entrepreneurship and local cultural outlooks towards entrepreneurship. Over time, a series of visibly successful entrepreneurs in a region can alter the region’s social structure to make it more supportive of entrepreneurship (Feldman, 2001; Malecki, 2009). Prominent entrepreneurs legitimize the risks of
entrepreneurship, encouraging both new firm formation and spinoffs. Aoyama (2009 p. 507) supports this by arguing that “entrepreneurial aspirations are shaped by regionally distinctive opportunity costs and are also formed relative to established regional norms.”

These local cultural norms have been shown to shape both the size of entrepreneurs’ social networks as well as the types of resources they are able to draw from them (Klyver and Foley, 2012). Entrepreneurs with larger and more diverse networks have been shown to have superior access to financing (Shane and Cable, 2002), novel ideas (Burt, 2004; Powell et al., 2005) and are better able to capitalize on opportunities in the marketplace (Anderson and Miller, 2003). Both the quality of entrepreneurs’ networks as well as their ability to access the resources within them appear to be connected to local cultural norms regarding social interaction. Westlund and Bolton (2003) specifically focus on the role of “spacebound social capital” in the entrepreneurship process, which they define as the local character of social relations (p. 79). Other authors (e.g. Thorton and Flynn, 2003; Lambooy, 2010; Schutjens and Volker, 2010) have also noted a strong connection between local cultural attributes and the nature of entrepreneurs’ social and business networks.

Malecki’s work sees entrepreneurship as part of a larger economic and social environment rather than as an isolated activity. A region’s formal institutions, policies, dominant economic actors and networks of financiers and advisors work in concert with informal institutions like cultural outlooks on entrepreneurial risk, to produce environments that either support or discourage entrepreneurship. However, the role of culture within these environments is unclear. Part of the confusion over the role of culture is the static nature of much of the work on entrepreneurial environments. While many studies have carefully examined the origin and initial development of the institutional and cultural mix that make up an entrepreneurial environment, they have paid less attention to how these environments change over time in response to both internal and external factors. The role of culture is visible during times of change or crisis when it either enables or discourages new types of practices. Beyond the empirical challenges, there is a poverty of dynamic theoretical frameworks on institutional or cultural change. Similar to institutional theories, work on entrepreneurial environments and cultures lack a way to account for human agency and contingent historical events. This static view results from a lack of a mechanism to link the entrepreneurial environment and the culture
within it, to entrepreneurs’ individual actions.

Much like clusters, successful entrepreneurial environments are studied only after the fact, leading to *post hoc* analyses that fail to capture the sequence of seemingly random and disconnected events that potentially underlay a specific regional entrepreneurial culture. Similarly, non-entrepreneurial regions are rarely studied or competed in detail, because it is more difficult to explain the absence of an entrepreneurial dynamic than its presence. Feldman’s (2001; Feldman et al., 2005) study of the emergence of a biotech cluster in Washington D.C. provides an instructive account of the formation of an entrepreneurial environment. It traces the birth of the entrepreneurial cluster back to the external shock related to substantial layoffs of government scientists and technical experts during the Reagan administration. Many of the laid-off scientists had family and social ties to the region which made moving elsewhere for employment undesirable. Lacking other opportunities many started new firms to sell their expertise to the government as contractors. Before being laid-off, the scientists viewed entrepreneurship as “betraying scientific integrity,” preventing the development of scientific entrepreneurship in the area (Feldman, 2001 p. 866). Washington D.C. could not emerge as a hub of scientific entrepreneurship until the development of an entrepreneurial tradition was catalyzed by these layoffs and subsequent development of small technical firms.

It is important to also consider non-entrepreneurial environments that are detrimental to firm formation and growth. Just as regional trust encourages the sharing of resources within networks, regional distrust discourages it (Stam, 2007). Structural problems, such as the lack of human capital or economies with few opportunities, can lead to low levels of entrepreneurship. Economies based on a single industry or firm, for instance, may lack the opportunities necessary to spark entrepreneurial development. Outdated perceptions of who can engage in entrepreneurship (especially who can engage in risky, growth-oriented entrepreneurship) may shut out certain segments of the population and slow down the development of regional entrepreneurial environments (Blake and Hanson, 2005; Hanson, 2009). Potential entrepreneurs are deeply embedded in place-based networks and cannot easily relocate from regions with poor entrepreneurial environments to better ones. And while some entrepreneurs may move to a new region to start a new venture, they are weakly embedded in their new local economy (Watts et al., 2006) and have a higher rate of failure than entrepreneurs who have lived in the region longer
Entrepreneurial environments provide a useful framework to analyze the simultaneous and interconnected role of multiple social and economic forces at play within a region. It draws explicit attention to the complicated array of forces that influence how entrepreneurship plays out in a region. Some of these are formal entities, such as local organizations or government programs. Others, such as beliefs about risk tolerance and fear of failure, are informal social orientations or cultures that are predominant within a region. However, much like other theories discussed in this chapter, entrepreneurial environments incorporate the role of culture without fully explaining that manner in which it affects entrepreneurial actions. Instead it provides a high-level overview of which forces and structures in a region affect entrepreneurship as a way to suggest policy options for improve the entrepreneurial performance of a region.

4. Conclusion

Culture is a critical component in understanding regions’ entrepreneurial economies and for explaining how the entrepreneurship process differs between communities. However, scholars’ use of culture to study these issues remain problematic. The main issue is the lack of theoretical mechanisms that connect cultures with the practices actors employ. This is particularly important for the study of the geographies of entrepreneurship due to the important role local cultural institutions and contexts play in structuring the entrepreneurship process and creating supportive entrepreneurial environments. The result of these confused view are theories that describe culture rather than explaining it. While there has been a tremendous effort given to understanding the culture within economic geography, our current view of culture does not allow a rigorous way to study its role in a region’s economic development and evolution. But such an understanding is critical given the massive changes occurring within the global economy. The ability of regional economies to adapt to an ever changing global economy will depend in part on their local cultures. Lacking a precise understanding of culture, we are left with individual case studies that do not demonstrate anything larger about the nature of regional economies.

A different approach is needed. The next chapter develops a theoretical framework to explain the causal mechanism behind entrepreneurial and non-entrepreneurial environments. Building on the work of Pierre Bourdieu, the chapter argues that actors’ understanding of
locally-based social structures is critical in explaining their choice of practices. Common understandings of these social structure lead to the emergence of patterns of practice within a region. Overtime, these patterns may change as either external forces or crises affect a region or successful actors alter the social structure. This approach avoids the ‘black box’ approach often implicit in other cultural theories while still providing a rigorous and precise way to study the role of culture within a region’s economy.
Chapter 3
Bourdieuian Approaches to Culture in Economic Geography and Entrepreneurship

1. Introduction

As argued in Chapter 2, a major problem with research on entrepreneurial cultures is the lack of theoretical frameworks connecting actors’ practices with larger social structures. Despite Mitchell’s (1995) intervention, culture is too often viewed as a reified entity rather than an ongoing process. Three major conceptual challenges emerge absent a theoretical mechanism connecting culture and action. The first is a monolithic view of culture. Without a clearly defined mechanism, it is both difficult to determine why different actors are embedded differently in the same cultural environment and how actors are affected by overlapping cultures. When we argue that an actor ‘is’ embedded in a cultural environment rather than explaining ‘how’ this embedding occurs, we obscure a complex and dynamic process. Second, with no mechanism in place to explain how they change over time, our understanding of these environments are static and miss the ongoing role of the institutional norms and economic structures that underlie these environments. Third, rigorous empirical research is difficult and terms like culture become fuzzy and incoherent without a mechanism to explain the process by which cultural environments affect individual action (Markusen, 1999). This makes it difficult to compare the role of culture between regions, industries or time periods, leading to descriptive case studies rather than comparative studies that use a single cultural framework to investigate the reasons for differences between such categories.

At the heart of this issue is the question of structure versus agency: how much influence do social and economic factors have on the choices humans make versus their own free will? Are economic and social factors or individual freedom more important in producing certain economic outcomes? The answer, as Martin and Sunley (2003) argue, is often a very unsatisfying ‘both.’ The challenge is to find a way to balance structural and individualistic explanations for actors’ behavior while still allowing for a rigorous examination of the elements affecting both social structure and human agency.
This chapter argues that the sociology of Pierre Bourdieu can provide a solution to this problem. His body of work focuses on understanding the emergence of practices not as the outcome of social structure, but as a relational process emerging from the mixture of individual dispositions and social systems. This chapter first introduces the key concepts of Bourdieu’s theory of practice before moving on to discuss how Bourdieu’s theories can better explain the creation, reproduction and evolution of entrepreneurial environments. This leads to the development of a Bourdieuan framework of entrepreneurship that is placed within a geographic and relational context. The chapter concludes by discussing the advantages of a Bourdieuan perspective over traditional cultural explanations for understanding regional differences in entrepreneurial practices.

2. The Sociology of Pierre Bourdieu

The objects of a Bourdieuan analysis are practices: the actions performed by actors in pursuit of their goals. Within this research, entrepreneurial practices refer to the activities and decisions employed by entrepreneurs as they start and grow their firms, such as how they identified the entrepreneurial opportunity or how they network with other entrepreneurs. A Bourdieuan analysis seeks to examine the actual practices which occur, rather than those dictated by social rules, to better understand why certain actions make sense in the context in which they are carried out (King, 2000). At the heart of this inquiry is the argument that structure and agency are dialectical rather than dichotomous (Bourdieu, 1990; Swartz, 1997). Social structures do not determine what practices people can perform, but rather practices are carried out within a social context that guides possible actions (Bourdieu and Wacquant, 1992). In empirical research, this means that entrepreneurs do not perform particular practices because their ‘culture’ tells them to, but rather because from their culturally-influenced perspective, these practices make the most sense. Bourdieu’s work employs three main conceptual tools to understand the emergence of practices: field, habitus and capital.

2.1. Field

Practices take place within fields: social spaces of stabilized power relationships, rules, traditions and customs that have developed over time (Bourdieu and Wacquant, 1992). Fields have certain rules that participants implicitly agree to follow, without which social interaction is impossible.
(Hillier and Rooksby, 2002). These rules can be formal laws and regulations or they can be the informal, unwritten social rules and norms found within an organization or group. Likewise, the enforcement of these rules can be explicit through an organized judicial system or implicit through the threat of social exclusion. Fields are not prescriptive guidelines of what actions to take in any given situation. Rather, they create the environment in which an infinite variety of practices can play out. Bourdieu frequently compared fields to a game like soccer (Bourdieu, 1990). The game’s rules provide a context for action by formally describing the size of the play area and the duration of play. A few actions, like certain players controlling the ball with their hands, are formally punished while other practices like poor sportsmanship are informally sanctioned. Within these rules, players can employ nearly limitless strategies in the pursuit of their goals, including breaking the written rules (by using their hands or faking an injury) if they perceive it provides them with a temporary advantage. Fields are thus more than a collection of rules and norms; they are a space of purposeful action and strategic decision making. Some of these rules are so ingrained into everyday life within the field that they become invisible. Bourdieu terms these types of rules and traditions doxa, aspects of the field that are not only unquestioned, but unquestionable because they appear to be entirely natural (Deer, 2008).

While the informal and formal rules within a field serve to reproduce the historical relationships between actors, they do not mechanically produce practices. While the rules of a field serve to support existing power relations and hierarchies, within these rules there is a great deal of indeterminacy in which skillful actors can improve their own social position through the judicious use and purposeful misuse of the field’s rules and customs. New practices have the potential to disrupt these existing power relations, creating new rules or norms as conditions. As such, relationships within the field change over time. Far from being static, fields are sites of constant struggle over power and legitimacy (Emirbayer and Johnson, 2008).

2.2. Habitus

While a field may have objective rules and hierarchies, these are not uniformly understood by all participants. Fields are interpreted through the lens of habitus, the individual dispositions and intentions created by an actor’s knowledge of a field (Bourdieu, 1990). The habitus is the source of the “normative propensities” that guide actors’ desires, influencing both their goals and the
practices used to acquire them (Firedmann, 2002 p. 316). Through their habitus, “people want what they have a chance at getting and learn instinctively how to get what is possible.” (Friedland, 2009 p. 899) The habitus is an internalization of a field’s formal and informal rules and hierarchy of power (Swartz, 1997). This internalization is a simultaneous knowledge about one’s position in the hierarchy of a social space and the implicit social assumptions about that position. For example, an entrepreneur with a degree from a prestigious university may have an innate sense of how best to display their education based on the industry they are entering. This creates a practical sense of the strategies and practices that are viable in a given situation based not only on the actor’s actual social status but also his understanding of his position within the field and the rules that apply to him (Swartz, 1997).

While Bourdieu argued that the habitus is created largely through childhood education, it is open to change over time (Bourdieu, 1984a). Newly arrived migrants, both transnational immigrants and rural-to-urban transplants, lack a habitus attuned to their new surroundings. This can lead to misunderstandings because an actor’s practices do not match what is expected of him (Kelly and Lusis, 2006), for instance an inexperienced entrepreneur not dressing appropriately for a meeting with an investor. As actors spend more time in a new field they begin to internalize its social rules and order. While their old habitus is not replaced, it evolves and changes to suit different new social environment (Friedmann, 2002).

The development of habitus through interaction in a new field can be viewed as an embedding process. As actors spend more time in a field, they learn about its accepted behaviors and rules through interactions with local actors. At first, they may follow these rules only because will be punished for violating them, for instance by being denied resources when they violate the spirit, if not the letter, of customs regarding social interaction. As the actor’s habitus adjusts to the field, these different rules and customs are now viewed as common sense as the actor develops a deeper appreciation for their roles and functions. Actors’ internalization of a field’s expectations allows them to form deeper relationships with those in the field, further deepening their embeddedness. As their habitus adjusts to a different environment, they unconsciously conform to the field’s expectations and doxa. At this point, Oinas’ (1999) problem of silence is encountered, where actors’ habitus are so attuned to a field that they are unable to articulate the field’s rules, but rather unselfconsciously enacts them through their practices.
The relationship between field and habitus provides a way to understand practices without reverting to ‘black box’ structural explanations or individualistic rational-actor approaches. Even when fields have real and objective rules, there is still a great deal of indeterminacy and vagueness that actors can recognize and exploit by investing new practices and strategies (Bourdieu, 1989). Through their habitus, actors possess not only an understanding of the rules of a field but also how those rules apply to them. This informs their choice of practices in either a deliberate strategic or an unthoughtful manner. The field then does not ordain that actors select certain practices in response to a given situation, but rather it creates a context for habitus-informed practices to play out.

2.3. Capital

Actors’ strategies and practices are guided by the pursuit of capital, broadly defined as any form of accumulated labor appropriated on an individual basis that can be used to establish social standing. Bourdieu (1986a) initially introduced three forms of capital: economic, social and cultural. Economic capital is the accumulated money or resources that can be used to buy things through market interactions. Social capital refers to the potential resources available through personal relations with other actors. Cultural capital refers to particular knowledge or credentials needed to operate effectively within a field — the savoir faire needed to maintain social standing within particular cultural contexts. In modern societies, this often takes the form of university degrees. Subsequently, Bourdieu discussed symbolic capital, the social status accorded to particular professions or titles within a field (Bourdieu, 1998; Bourdieu, 2005). In fields where entrepreneurship is celebrated, the act of founding or supporting a successful startup produces a great deal of symbolic capital, symbolizing the importance of entrepreneurship within the community. While the social status of entrepreneurship has long been considered a part of entrepreneurial environments, the symbolic capital of entrepreneurship is important because it can be used by entrepreneurs to acquire resources, such as when investors want to be associated with an up and coming high tech startup.

Actors use their capital to acquire power and establish their social position within a field. The value of the different forms of capital depends on the field’s structure. In Bourdieu’s original study of the Algerian Kabyle people, social and cultural capital were more valuable than
economic capital (Bourdieu, 1977). In other fields, such as investment banking, economic capital is paramount, but cultural capital (for instance, having graduated from an Ivy League university) is highly valued (Ho, 2009). For technology entrepreneurs, their technical skills (human capital) are only valuable if they have the savings and investments (economic capital) and ability to sell their vision to customers and investors (cultural capital), which is helped by previous entrepreneurial successes (symbolic capital). Conflicts in fields do not just occur over stocks of capital but also over the value of one form of capital relative to another (Bourdieu, 1984b). Those who possess valuable capital will use the power inherent in that capital to defend its value, while those with less valuable stocks of capital will attempt to change the field’s structure to increase the value of their own capital.

Forms of capital are ultimately convertible between each other, though not perfectly so. There is no pricing system to determine, for example, the economic value of cultural capital or the social capital worth of symbolic capital. Through their interpretation of the field, actors have an implicit understanding of the convertibility of capital forms. The use of guanxi (a form of social capital) to generate economic capital in contemporary Chinese ethnic fields is an example of this (Smart, 1993). Those used to the gunaxi system easily understand how to convert their social connections into economic opportunities. But an outsider whose habitus is not attuned to the complexity of guanxi have difficulties understanding the interaction between gunaxi and economic capital because “they are used to relying on the authority of contract and law, instead of more-or-less tacit, unwritten rules and regulations” (Depner and Bathelt, 2005 p. 70).

Actors orient their practices around increasing those stocks of capital that they believe are valuable and that, if they are successful, will increase their position within the field. These practices are strategic and, within the context of the field, rational. Each field’s definition of ‘rational practices,’ however, is based on the field’s rules and how they are interpreted through an actor’s habitus. Practices are performed because actors believe that they are the best choice given the present situation, not because social traditions compel them. For Bourdieu, an actor is “a virtuoso with a perfect command of his ‘art of living’ [who] can play on all resources inherent in the ambiguities and uncertainties of behavior and situation in order to produce the actions appropriate to each case.” (Bourdieu, 1977 p. 8) Even if actors cannot expressly articulate a
field’s rules or power structure, their actions are still adapted to that context through their habitus.

It is here that the significance of Bourdieu’s work can be appreciated. Social structure (the field) itself does not cause an actor to perform any particular practice. Rather, the field creates a context for action. Practices are based on actors’ understanding of the rules of the field generated through their habitus. The field creates the ‘rules of the game,’ but within these rules actors possess latitude to strategically choose their practices. Neither structure nor agency is paramount, instead both work in concert to generate practices. This conceptualization describes a process that helps explain the connection between social structure and agency through the choice of practices based on their usefulness within a field’s context.

3. Bourdieu and Entrepreneurship

A Bourdieuan theory of entrepreneurship should address three critical questions: (1) How do entrepreneurial actors become embedded in fields? (2) How do these social and economic fields affect entrepreneurial practices? (3) What how do fields of entrepreneurship change over time? A Bourdieuian framework allows a rigorous analysis of the attributes of entrepreneurial environments without resorting to invoking static notions of ‘culture,’ while at the same time retaining the role of human agency and contingent action. At the heart of this framework is the study of why particular entrepreneurial practices seem rational and sensible given an actor’s understanding of the fields they are operating in and the types of capital they are most interested in acquiring.

There has been a bourgeoning interest in applying Bourdieuian analysis to entrepreneurship. This is related to a larger movement towards the study of social context amongst managements scholars and builds on previous work integrating Bourdieu into organizational and management studies (e.g Gorton, 2000; Emirbayer and Johnson, 2008; Swartz, 2008; Vaughanm 2008). This literature is based on two aspects of Bourdieu’s work: a practice-based approach (Terjesen and Elam, 2009) and an interest in how norms of legitimacy are constructed within fields (Elam, 2008; de Clercq and Voronov, 2009a; de Clerq and Voronov, 2011; de Clerq and Hoing, 2011). The practice-based approach emerges from an increasing awareness that entrepreneurs’ decisions are bound up in their larger social contexts
(Licht and Siegel, 2006). Instead of normative approach focusing on what entrepreneurs should do given a certain set of economic conditions, a practice approach seeks to understand why entrepreneurs employ particular practices and how these practices emerge from the entrepreneur’s habitus.

The second stream of Bourdieuan research examines how norms and conventions of legitimacy are created within fields and how entrepreneurs employ specific practices to acquire legitimacy in order to access the resources they need. de Clerq and Voronov’s research focuses specifically on the field of fast-growing startup firms, which includes both the entrepreneurs and their investors. Investors’ control of economic capital gives them substantial power within this field. To access this capital, entrepreneurs must develop a very specific form of cultural capital in order appear legitimate. This cultural capital is created by performing particular practices in particular ways, from the creation of a business plan to the way they dress and present their ideas (de Clerq and Voronov, 2009a). However, some traits like gender or race can negatively affect legitimacy, making an idea appear less legitimate when performed by someone outside of the traditional entrepreneurial mold (Elam, 2008). Entrepreneurs will only be able to secure investments if they meet the investors’ understandings of legitimacy.

While these aspects of legitimacy become part of a field’s doxa, entrepreneurs still interpret these rules through their habitus (de Clerq and Voronov, 2009c). Entrepreneurs must adhere to the unwritten rules about legitimacy while at the same time signal their independence and uniqueness by violating some of those norms (de Clerq and Voronov, 2009b). This requires them to “...artfully navigate the tensions among the attributes of their potentially novel activities, the dominant field arrangements and broader field-level templates of change.” (de Clerq and Voronov, 2009c, p. 813) Those without this kind of entrepreneurial habitus — who have not experienced the field of high-growth entrepreneurship or been inculcated with its rules at an entrepreneurial university — will not know the fine balance between conforming to and diverging from the norms of entrepreneurial behavior and thus be unable to acquire the resources they need.

While this Bourdieuan approach to entrepreneurship shows great promise, it has several unanswered questions. The first is an overemphasis on firms seeking venture capital. Even in
high-tech sectors this represents only a minority of firms (Robb and Robinson, 2008). A broader perspective that can account for the practices of different types of entrepreneurs, such as high-growth as well as lifestyle entrepreneurs (entrepreneurs whose primary goal is creating a small, sustainable business) is necessary. While entrepreneurs may inhabit the same field, different types of entrepreneurs have different habitus and therefore value the importance of legitimating cultural versus other forms of capital in differing ways. This, in turn, leads to diverse arrays of practices, for instance lifestyle entrepreneurs spending more time with their families rather than actively growing their firms.

Along with extending this framework to more types of entrepreneurs, we must also consider other types of entrepreneurial actors. The investors who de Clerq and Voronov see as the arbiters of entrepreneurial legitimacy also operate within the entrepreneurial field. They too must interpret the field’s rules through their own habitus. Therefore, while the economic capital they possess gives them significant power in the field, they must also acquire legitimacy with both to their own funders (in the case of venture capitalists) as well as the entrepreneurs with whom they want to invest. Likewise, other actors like entrepreneurs’ family and friends also need to be considered. These informal actors are critical sources of early stage financing and other types of support, but they act for entirely different reasons and based on entirely different rationales than formal investors. They place more value on different forms of capital and legitimacy. While an entrepreneur’s family might hope to recoup their investment, their emotional and social connections with the entrepreneur may play a more important role than the pursuit of economic capital. Securing these investments from family and friends requires the entrepreneur to build a different kind of legitimacy than they would with traditional investors. The cultural capital valued by investors (technical or presentation skills, for example) is less valuable to family members and friends, who may instead base their decision on shared social capital.

Like many of the other theoretical frameworks discussed above, this Bourdieuan view of entrepreneurship is somewhat static. It lacks a way to explain (1) how these norms of legitimacy first emerged, (2) how they might change over time and (3) why different places or industries have different norms of legitimacy. One of the key aspects of Bourdieu’s sociology is that the field is in a constant state of struggle and change (Emirbayer and Johnson, 2008). The actions of
entrepreneurs and other actors affect the composition and rules of the field, causing to the norms of legitimacy to change slowly over time.

The following section seeks to remedy these issues by placing this Bourdieuian perspective in a geographic context. A geographic perspective helps ground the theoretical Bourdieuian approaches developed within entrepreneurship studies to the material reality of local entrepreneurial processes. As will be discussed, a geographic view allows us to see how fields and habitus reflexively evolve over time in response to both conflicts between fields and internal and external economic and social changes.

4. A Bourdieuian Approach to Regional Entrepreneurial Cultures

The last chapter defined regional cultures as collective ways of looking at the world common to a region. From a Bourdieuian perspective, culture can be understood as the dominant way in which actors understand the fields they operate within. Fields themselves are not culture; rather, culture emerges from a collective comprehension of what practices meet the expectations of the fields that are present in a particular region. While a Bourdieuian approach may add conceptual complexity to cultural analysis, it has several advantages for understanding the role of culture in regional economies. First, it highlights a practice perspective, meaning that regional cultures are not studied in isolation but rather through the practices they help create. This grounds culture in its material effects. Second, linking culture and fields establishes the mechanisms connecting culture and practice. Through their understanding of the fields that affect them, actors have an internalized understanding of the entrepreneurial practices that make the most sense given their social context. Actors employ specific practices because they feel they will maintain or increase their stocks of the most valuable capital in the fields they operate in and increasing their social standing. Though individual actors with their own unique habitus will interpret the rules of the field differently which will create a diverse array of practices, when viewed at a larger scale like the region, patterns of practices emerge because the majority of actors understand the fields in similar ways. Because different regions develop unique fields over time, this leads to different dominant sets of entrepreneurial practices in different regions.
However, the major fields which affect a region must first be identified before the emergence of practices from actors’ understanding of the fields can be studied. This is a complicated question because the scale of fields is indeterminate. As a sociologist, Bourdieu saw fields as existing in a social space as opposed to geographic space. Much like Foucault, Bourdieu often used spatial and geographic metaphors (the most prominent being the field) without regard to their actual geography (Foucault, 1980; Bourdieu, 1989). Only later in his career did he begin to address the real geography of fields, noting that the French housing market was heavily influenced by the to political boundaries between départements, which created different ‘bureaucratic fields’ in different regions (Bourdieu, 2005). More often fields represent the rules, conventions and norms of an area that is less precisely defined, such as a common labor market that encompasses several political jurisdictions or an ethnic group spread across the globe. Therefore, the focus should not be if actors are ‘inside’ of a local field, but the extent to which they are embedded in unique sets of norms and rationalities found within particular regions.

To understand this process, local fields must be first distinguished from non-local ones. Some fields are grounded in a particular place due to their connection with local populations and institutions. These fields emerge out of local processes, such as a dominant local firm normalizing its industrial practices or a beliefs and customs of a prominent local population, as in James’ (2005) study of Mormonism in Salt Lake City. As such groups’ influence in a region increases, they are able to enact and enforce various formal and informal rules and customs on the larger community. While it is possible for local fields to only cover a small area (such as religious communities that occupy a neighbourhood in a larger city), this research primarily refers to local fields as existing within entire regions.

Other fields have a less material geography, such as the organizational field of a multinational company or a social field associated with a particular ethnic group. Because they may operate on a national or global scale such fields can exert influence over a variety of different locations. Actors associated with these fields must learn the appropriate practices and dispositions they require, but at the same time must balance the rules of those fields with the structure of local field in which they live. For instance, a technology entrepreneur might have to find practices that work in both the risk-tolerant field of the technology industry with the risk-adverse nature of her local field.
4.1. The relational geography of fields

A relational approach is necessary to understand the multi-scalar geography of fields. Instead of seeing space as a casual force for economic or social activity, a relational approach sees space as a lens through which economic and social activity are studied and interpreted (Bathelt and Glücker, 2003). From a Bourdieusian perspective, the focus is not simply exploring influence of local fields, but rather how actors can balance the competing demands of local fields against other outside fields, such as ethnic, economic or business fields. That is, how do entrepreneurs chose practices that maintain their legitimacy in multiple fields, such as the local field they live in, the industrial field in which their firm and investors exist and the ethnic field their family inhabit? The rules of the local field are of critical importance because local actors cannot escape it. Unlike other fields such as those connected to an industry or occupation, actors engage with the local field before, during and after their normal jobs. As argued in the previous chapter, entrepreneurs will primarily draw on local resources, resources that are also affected by the local field. But many actors, especially entrepreneurs, must regularly engage with other fields, requiring them to adhere simultaneously to multiple field-specific norms that often contradict each other.

The local field is defined by the fact that its rules, norms and structures are reproduced through fundamentally local processes and institutions. These can be powerful players in the region, such as dominant firms or industries or through local communal beliefs. For instance, the high status of entrepreneurship in a region might be reproduced through institutions such as schools, universities and the media which celebrate successful entrepreneurs and instil a respect for the risks of entrepreneurship in the habitus of those occupying the region. This is opposed to non-local fields, whose structures are mainly reproduced outside of the region.

Though fields can operate at a variety of scales, actors’ understanding of the local field will filter their perception and understandings of non-local fields. This is due to the overwhelming influence of the local field, which actors are continuously exposed to as they carry out their daily activities. All of these fields are understood within the context of the local field. That is, because the rules of the local field play such a prominent role in the lives of most people, they implicitly understand other, non-local fields through the local field.
The interaction between local and non-local fields is therefore not static or hierarchical, but is rather a reflexive, relational connection between a local field and the non-local fields materializing within it. As Figure 3.1 shows, complex, dynamic relationships exist between the multiple fields that occur within a region. In the figure, fields A, B and C all influence the local field, either directly or indirectly. However, the rules of non-local fields take place within the social context of the local field. Actors who are embedded in the local field will understand these non-local rules through the structures of the local field, which has deeply affected their habitus. Neither local nor non-local fields are necessarily dominant or immune to change or influence. The nature of the local field does not control those who operate within its boundaries, fields only set up a social space in which practices play out in. Rather, through their habitus, actors create an internal understanding about the relationships between local and non-local fields and their positions within them and then enact the practices that make the most sense given those relationships and their current circumstances.

Figure 3.1: Schematic of the relationship between local and non-local fields

From this perspective, regional culture is not simply the local field. If this were the case, a Bourdieuian approach would simply replicate the existing problems with culture under a new name. Rather, regional cultures are created by the collective views of the multiple fields that
operate in the region that emerge over time. Such fields include both local as well as non-local fields that influence the region. As actors carry out their day-to-day lives within this overlapping assemblage of fields, they create an internalized knowledge of them as their habitus develops. Over time, a dominant understanding of these fields will emerge within a region, creating a what can be referred to as a regional culture. A relational perspective of fields emphasizes the interconnected nature of fields on multiple scales and emphasizes a holistic analysis which includes the effects of the diverse array of fields which operate within a region, be they based on institutional forces working at a local, national or global level.

There are two ways in particular that non-local fields would either be nonexistent or have no influence over local practices, in essence meaning that no local culture exists. In the first case, the individual actors are too atomistic or isolated for any local field to emerge. In this situation, actors cling the rules and structures of other fields, such as their preexisting ethnic or professional fields, rather than interacting with one another and generating new social rules. Without this interaction, a local field cannot emerge. In the second case, the local field does not have enough power to force outside actors to change their practices. This may because the outside actors are only subject to the rules of a local field for a brief period (such as attendees at an international trade fair) that they have no effect on them. The power of the other fields such as industrial or ethnic fields, overwhelm the influence of the transient power of the local field. Thus in situations like trade fairs, the local culture can be said to be nonexistent, since its effect on practices is negligible. Finally, there is a third option in which there is no coherent process of local field reproduction, meaning in essence no local culture exists.

4.2. The creation and evolution of fields

Fields do not arise from nothing nor are they immune from change. New fields emerge from preexisting ones after a period of struggle (Bourdieu and Wacquant, 1992). New developments like the creation of a new disruptive technology or the change of political regimes shift control of power in a field away from incumbents to new players and open up new strategies. In most cases the change happens internally within an existing field. However, within modern economic systems new fields can potentially emerge along with new industries. For instance, the modern information technology industry emerged out of the telecommunications
industry of the 1970s and 1980s. The success of new players like Cisco or Sun Microsystems did not require the exit of older actors like AT&T. However, these new players, armed with a new type of capital — specific technical knowledge and expertise — were able to establish a new field with rules and conventions different from the preexisting field. In such situations, new rules emerge organically from the new players’ prior experience and new technical and economic realities (Aldrich and Fiol, 1994). Because a new field lacks agreed upon social norms, actors draw on their backgrounds with other fields they have inhabited. For instance, in the development of the information technology field, social and business norms were imported from the academic field the new players came from, which helped generate the traditions of informal social interaction that we still observe today.

Social rules are not kept simply because they are traditional but because they play some role in maintaining the social order and distribution of power in a field. In many modern economic fields that have diffuse hierarchies of power and well-distributed capital — including entrepreneurial fields — norms and conventions can be very fluid. Actors have a great deal of freedom within these fields to improvise new practices and strategies based on their immediate needs. The variety of practices this improvisation produces is a result of the diversity of different habitus being exposed to the rules of the field and interpreting it differently based on the actors’ goals. Because business and entrepreneurial fields have very quantifiable definitions of success (a firm either grows or it does not), practices that lead to success are easily observed and imitated. As these new practices continue to be successful, they become a natural part of actors’ habitus, in essence they are predisposed to follow the rules of the field because those rules have become a natural part of their everyday life.

These successful practices are now performed not because they necessarily lead to success, but because they have now become common sense. Over time, if these practices continue to be successful, they coalesce into new traditions or institutions; they have become part of the field’s doxa (see Figure 3.2). This process shows that rules within a field are not static entities, but rather dynamic social processes that are continuously being reproduced and modified according to the present needs of the actors in the field. The constant churn of new practices and practitioners in entrepreneurial and business fields creates a system of constant renewal and reinvention.
This process also describes how non-local fields can alter local ones. When an outside field first materializes in a region, for instance due to the opening of a manufacturing branch plant in a traditionally agricultural region, actors affected by this new field must employ new practices that work within them. When these practices are successful — that is, they generate forms of capital that are valued within the local field — others who are less directly affected by the new field will begin to adopt those practices. Over time, such practices may become more common in the region and alter the structure of the local field, creating new norms and conventions and altering the value of the various forms of capital in the region. However, this is not a linear process whereby the values and rules of the new, outside field are imposed on the local field. Rather, it is a reflexive relationship. Practices common in the outside field that are alien to the local field may have to be adjusted to fit into the local context before they become practical and these changes can possibly affect the larger outside field. Practices that work in both the local and non-local fields are created by actors improvising new practices based on what their habitus-based view of the field believe will be effective.
This process has obvious connections with evolutionary economics and evolutionary economic geography (e.g. Nelson and Winter, 1984; Boschma and Martin, 2010). Both evolutionary and Bourdieuan approaches focus on the role of path-dependent routines within firms and regions with a particular interest in the processes through which different types of routines are developed and reproduced. Indeed, the habitus/field framework discussed here can be seen as a useful addition to evolutionary economic geography because it specifies the processes through which regional norms and rules are reproduced through individual decisions, rather than at the firm level. Evolutionary perspectives on branching and related variety offer insights into the dynamic process of change within a field by emphasizing the connections between new types of practices and existing regional competencies and trajectories (Boschma and Frenken, 2011; Neffke et al., 2011).

The presence of a local field, rather than a non-local field with strong influence in a particular geographic area, is defined by the fact that its evolutionary processes involve fundamentally local institutions, organizations and actors. That is, change within a field is driven by the introduction of new practices, either through strategic experimentation or in reaction to changing local conditions and spreads throughout the community through observation and imitation. These new practices, as Figure 3.2 shows, will eventually lead to changes within the local field. If a cohesive view of the new field emerges within a community, this can be seen as a local culture.

4.3. Entrepreneurship across multiple fields

In order to start or grow their firms, entrepreneurs need to acquire resources from the actors or organizations embedded in one or more fields. Entrepreneurs can only gain access to these resources if they appear to be legitimate to whomever holds the resources. However the nature of legitimacy is based on the nature of the field. Actors in different fields have different understandings of legitimacy. For instance, due to the nature of their industrial field, banks have formalized definition of legitimacy they can only be demonstrated through quantified metrics such as revenues or credit scores. Other groups, such as an entrepreneur’s family and friends, judge legitimacy through preexisting social ties with the entrepreneur. The process is more complicated when actors are embedded in multiple fields, for example local angel investors who
are influenced by both the structures of the local field, as well as the entrepreneurial field (general understandings about what the entrepreneurship process should look like) and the rules of a particular industrial field (see Figure 3.3). On one hand, they are investors who are primarily interested in increasing their own economic capital. But on the other hand, because they invest at an earlier stage, they must rely primarily on their own judgment of the entrepreneur’s ideas, character and talents rather than quantitative metrics, which do not exist at this stage. These perceptions are related to how effectively the entrepreneur conforms to perceptions of a legitimate, high-growth entrepreneur, which are influenced by the local industrial fields. The form of capital legitimacy requires in these different fields can be contradictory. Certain practices that are required to appear legitimate in one field may decrease perceptions of legitimacy in another. For instance, hiring a cousin might be an important way to legitimize the entrepreneurial endeavor to family members and improve social bonds, but a venture capitalist might see this practice as nepotism.
Only actors whose habitus are attuned to multiple fields will be able to successfully navigate these contradictory norms of legitimacy. This may take the form of choosing practices that meets the needs of all fields or appearing and acting differently based on the field they are dealing with at any given moment. Entrepreneurs must truly exemplify Bourdieu’s vision of actors as ‘social virtuosos’ if they are to balance these fields’ competing requirements; their habitus must be attuned to the unique nature of both the fields in which they are embedded, as well as the fields from which they need to draw resources. When entrepreneurs are introduced into a new field, they can easily run into difficulties because they do not understand the subtle, unwritten rules and traditions that govern it.
Within the context of this research, one field in particular is deserving of special attention. The field of technology entrepreneurship represents the rules and norms associated with technology entrepreneurs. The norms and traditions within the field are created by publicly successful entrepreneurs, such as Facebook founder Mark Zuckerberg (who, for instance, has helped inaugurate a new type of entrepreneurial ‘uniform’ of blue jeans and sweatshirts) and are spread throughout the world through magazines like *Wired* and websites like *TechCruch*, which chronicle this world. However, like all non-local fields, the rules from the field of technology entrepreneurship are affected by those of the local field, helping to create a heterogeneous landscape of entrepreneurial practices within this industry.

4.4. Formation of entrepreneurial habitus

If entrepreneurs are to operate successfully within these multiple fields, they need to develop a particular ‘entrepreneurial habitus.’ This habitus is more than entrepreneurial know-how, rather it is an understanding of what it means to be an entrepreneur — its social position within fields and common expectations and activities for entrepreneurs (Karataş-Özkan, 2011). Developing this habitus enables helps them understand the valuation of various forms of capitals within multiple fields and the types of practices that make them appear as legitimate entrepreneurs to others. A large part of an entrepreneurial habitus is the internal dispositions that draw the individual towards entrepreneurship: a desire for control, to profit from their own hard work and a tolerance or even embrace of risk and uncertainty. These dispositions work in concert with and in reaction to the circumstances and opportunities a potential entrepreneur encounters to produce the actual practice of starting a new firm. However, it is important to note that these dispositions alone do not cause someone to be an entrepreneur. They can just as easily lead to other occupations or acts of corporate entrepreneurship within existing organizations. Further, many are pushed into entrepreneurship by a lack of other opportunities, not a desire for to be an entrepreneur. Simply being an entrepreneur does not necessarily imply an entrepreneurial habitus. But to be successful over the long term entrepreneurs must develop such a habitus.

This habitus is formed in relation to the fields an actor experiences or operates in. These fields impart particular expectations and dispositions that will likely stay with the entrepreneur throughout her lifetime, affecting which practices will seem ‘normal’ or make sense in a
particular field. Entrepreneurs may have spent less time in other types of fields, such as local or business fields, but they still have substantial influence on actors’ habitus. By interacting with these fields, actors learn about their unwritten rules and social positions, allowing them to employ practices tailored to the fields. Actors might have prior exposure to the entrepreneurial field before they first start a firm, either through observation while working at a small firm or through social interactions with other entrepreneurs or they may experience the field only after starting the business. Like with other fields, as their experience with the entrepreneurial field grows, actors begin to understand its social order, which helps them make decisions that adhere to the social expectations of entrepreneurship.

This habitus is not entrepreneurial in the sense that it is created by the act of entrepreneurship, rather it represents self-knowledge of the social expectations of how entrepreneurs should act and appear within multiple fields. Using this knowledge, which can be both conscious and unconscious, entrepreneurs can employ practices that fit them within the multiple fields in which they are simultaneously operating. When conflicts occur between fields, a specific habitus attuned to the social expectations and rules for entrepreneurship within the conflicting fields may allow an entrepreneur to breaking the rules of either field or at least mitigating any loss of legitimacy or social status. Such practices are not often consciously chosen, but simply appear to be the most common sense choices given the situation at hand.

5. Bourdieu and Regional Culture

Economic geography’s often problematic engagement with culture steams from the frequent use of theories that cast culture as an unchanging ‘black box’. This view is a result of the lack of a conceptual mechanism that connects culture with economic and social practices. Without such a mechanism, it is difficult to go beyond simply describing a regional culture and to fully analyze the culture’s origin and how it affects actors’ daily and long-term practices and strategies. This problem is particularly apparent in entrepreneurship research, where regional culture is often viewed as a force causing a particular kind of entrepreneurship to occur without examining how these cultures develop or the manner in which they affect the complex social and economic process that is entrepreneurship.
A Bourdieuan approach provides a theoretical and empirical toolset to understand both the creation and evolution of regional cultures as well as how they create a heterogeneous landscape of entrepreneurial practices. This is very similar to existing institutional approaches to economic geography (e.g. Martin, 2000; Rodríguez-Pose and Storper, 2006), which examine the role of social rules and norms within regions and firms, but with an increased focus on the processes that legitimize certain kinds of practices. On a conceptual level, these practices emerge out of actors’ understandings of the social structures they operate within. These practices are not performed mechanically, but rather because actors believe they make the most sense given their understandings of the field and their own goals. Violations of field rules are not necessarily a misunderstanding; they can be a conscious or unconscious decisions based on actors’ knowledge of their relationships to the field. If the transgression is successful, others may imitate it, thus slowly changing the structure of the field as new sets of actors gain capital and power.

Predominant understandings of important fields emerge within the region as actors strategically experiment with practices as reflexively learn about their own positions within the field. These predominant understandings create regional cultures, the collective ways of looking at the world common to a region. From this perspective, culture is not a disembodied social force that causes actions but instead represents the way in which an objective set of social rules are understood within a particular place.

Unlike traditional cultural analysis, which provides very few clues on how to identify salient cultural attributes, a Bourdieuan approach supplies a very organized way of approaching both the rules and structures of a field, the internal dispositions of habitus and the practices they help generate. Regional cultures can be examined by connecting the observed practices the structures of the fields found within the region. This produces a more nuanced and detailed account of the role of regional cultures, moving away from simple ‘entrepreneurial’ or ‘non-entrepreneurial’ cultures to an examination of what types of practices are normalized and prioritized by particular cultures. For economic geography, a Bourdieuan perspective is a continuation of the movement away from a ‘black box’ conception of culture and towards an appreciation for the complicated interplay between cultural and economic forces (Warf, 2012).

The following chapters explore the connections between the practices of Canadian technology entrepreneurs and the fields in which they operate. By locating entrepreneurial
actors’ practices in the relationship between their habitus and fields it is possible to escape the quasi-determinism of cultural or geographic explanations. Though common types of practices may be found in particular regions, this is not simply due to an amorphous ‘regional culture,’ but rather to entrepreneurs’ understanding of the fields they must work within in order to achieve their goals. Though this requires a far more complex analysis, it allows a far greater amount of nuance and detail in explaining the origin of entrepreneurial practices and their relationship to both local conditions and larger-scale social structures.
Chapter 4
Research Methods and Case Study Description

1. Introduction

The heart of a Bourdieuan analysis is the study of the complex and reciprocal relationships between practice, habitus and field and as well as how these connections produce a distinct landscape of regional cultures. Through a study of both the fields that practices occur in and the habitus of the actors who perform them, it is possible to uncover the hidden rationales and justifications underling these practices. This, in turn, helps reveal the processes that link culture with the actors’ everyday practices without resorting to treating culture as a ‘black box’. The connection between field, habitus and practice requires an examination of the evolution of the present structure of the field and the ways actors in the field value differing capitals.

Understanding the history of a field and the contingent processes that have contributed to its present state is an important step in revealing the formal and informal basis of its ‘rules’ and how these are perceived by actors operating within it. The end result of this process is a better understanding of why some types of practices are seen as rational or common-sense while others are viewed as being particularly risky or illegitimate. Understanding the underlying reasons behind practices allows for a rigorous and precise analysis of a community’s culture and outlooks.

A Bourdieuan approach to entrepreneurship then needs to focus on the practices entrepreneurs employ as they start and grow their businesses, rather than analyzing aggregate structural measures or specific outcomes like a startup rates or profitability (Johnnsson, 2011). While this type of data are the most commonly studied in entrepreneurship research, newer large-scale datasets such as the Global Entrepreneurship Monitor and the Kauffman Firm Survey have moved to gather data on specific practices like financing methods and use of resources embedded in social networks, though they can still only gather categorical responses instead of rich qualitative descriptions. Complex issues are frequently proxied through binary questions, such as when having an entrepreneurial mentor is established by asking respondents if they know other entrepreneurs (for example, Stam et al., 2005). Qualitative approaches can go beyond measuring the rates of practices; researchers can probe why these practices were employed and establish how these rationales are related to larger social and economic structures. Such
questions are a key part of a Bourdieuian analysis because they help uncover how actors’ understanding of a field’s social rules have affected their decisions. This study employs semi-structured interviews with entrepreneurs, investors and economic development officials as the basis for a qualitative analysis which is designed to reveal the structure of local entrepreneurial fields and their influence on the underlying rationalities affecting entrepreneurial practices.

The remainder of this chapter will discuss the methodological framework used in this study. The next section summarizes the goals of the empirical research and the selection of case study populations. The third section discusses the qualitative methods used, the creation of the sample population and response rates. The fourth section outlines the organization of the following three empirical chapters.

2. Goals and selection of case studies

2.1. Industry Focus

Chapters five through seven examine the practices of software entrepreneurs, their investors and other related actors. While the Bourdieuian framework developed in this dissertation is useful for studying entrepreneurial practices in any industry, software entrepreneurs are an excellent population for several reasons. First, while the software industry is a global one, it tends to agglomerate in certain places, suggesting that software firms are affected by local economic and social forces. Second, software firms have the potential to experience all stages of an entrepreneurial lifecycle in a relatively short period, from startup and growth to final exit, the eventual end of the firm, which range from outright failure through bankruptcy or a managed shutdown to a profitable exit such as an acquisition or Initial Public Offering (IPO). Firms in other industries are less likely to experience all these stages of the firm lifecycle.

Third, barriers to entry are very low for software entrepreneurs. Starting a software firm could require little more than an idea, a computer and time. This allows entrepreneurs in this sector to choose from a variety of startup practices: from starting the company without any initial investment, using a runway model where an entrepreneur provides consulting services while developing the firm or gathering startup investments from their own savings, their family and friends or outside investors. More capital-intensive industries related to manufacturing involve a
more limited array of financial choices as they require entrepreneurs to obtain significant bank
loans or outside investment before starting the business. Fourth, this industry has long been
regarded as a key component for regional economic growth (Malecki, 1984; Malecki, 1991;
Carree and Thurik, 2010). Many software companies export their products or services outside the
region and therefore represent basic economic activity with potentially large local multipliers.
The effects of local cultures on the practices of software entrepreneurs can therefore have an
outsized influence on regional development prospects Finally, software firms can be seen as
being weakly embedded in their local context because they do not have to draw on many local
resources such as local financing, customers, suppliers or even local employees. Thus, if the
practices of software entrepreneurs are shown to be affected by their local field, this would be
powerful statement about the depth of the affect of local cultural outlooks on entrepreneurial
activities.

The software sector used in this project is constructed out of six five-digit North
American Industrial Classification System (NAICS) industries (see Table 4.1). These industries
are adopted from the typology used in Pennington (2009), with the addition of ‘engineering
services’ to capture software entrepreneurship that occurs within the primary resource support
industry, a major part of the Canadian economy. Studying these six industries across all three
case sites allows for a more direct comparison of entrepreneurial practices because the
entrepreneurs interviewed are generally using the same types of technologies and production
processes. Therefore, differences in practices between entrepreneurs in the different cities are
more likely to be related to the nature of local cultures rather than industrial cultures.

<table>
<thead>
<tr>
<th>NAICS Code</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>33411</td>
<td>Computer and peripheral equipment manufacturing</td>
</tr>
<tr>
<td>51121</td>
<td>Software publishers</td>
</tr>
<tr>
<td>51821</td>
<td>Data processing, hosting, and related services</td>
</tr>
<tr>
<td>54151</td>
<td>Computer systems design and related services</td>
</tr>
<tr>
<td>54169</td>
<td>Other scientific and technical consulting services</td>
</tr>
<tr>
<td>54133</td>
<td>Engineering services</td>
</tr>
</tbody>
</table>
2.2. Case Study Sites

This study employs a comparative case study approach to better understand how local cultures emerge and influence the entrepreneurship process. James (2006) argues that comparative case studies are an important tool to isolate and study unique cultural regional cultures and address the criticisms levied by Markusen (1999) that qualitative research in economic geography rarely establishes the intrinsic significance of a single case study (see also Peck, 2003). Comparing the practices of similar populations across multiple research sites allows for the identification of practices that are related to the attributes of the local field as opposed to those which are connected with another industrial, ethnic or technological field.

Case study sites must be comparable if they are to be useful tools for drawing out the underlying cultural foundations of unique regional patterns of practice. This does not mean that cities all must have the same size or similar industrial structures. Rather, it is better if they occupy similar places in a country’s economic and social landscape and hierarchy and obvious demographic or social differences do not overwhelm the more subtle differences in the cities’ economic culture. Because this research focuses on software ship, it is important that each case study feature a regional economy with a thriving software economy that is well integrated into the region’s economic and social environment.

Studying the construction of entrepreneurial fields and habitus is a complex task that requires looking at a number of different external and internal influences. Larger cities are unlikely to have a single principal economic culture that guides local perceptions of entrepreneurship and business, meaning that there is are likely to be multiple, overlapping entrepreneurial cultures found within the region. This makes it difficult to explain how particular sets of practices emerge from the interface between actors’ habitus and their understanding of the local ‘rules of the game.’ For this reason, the decision was made not to study software entrepreneurship in Canada’s largest city regions of Toronto, Vancouver and Montréal. Instead case study regions were chosen that limited as many differences (e.g. population size, ethnic makeup, educational levels) as possible. By eliminating obvious economic and demographic differences, the different practices found in the communities can be more clearly associated with local cultural outlooks.
Second, the research sites should have evidence of a strong entrepreneurial economy. Because the focus of this project is on entrepreneurial practices, each case study city must have a sufficiently strong entrepreneurial environment that can produce a wide array of practices. While the examination of the cultural factors that contribute to low levels of regional entrepreneurship is an important research topic, the goal of this project is to understand the reciprocal connections between entrepreneurial practices and local cultures, making it necessary to study regions with successful software entrepreneurial economies.

Based on the need for generally comparable regions with strong entrepreneurial economies, this study examines three Canadian regions: Kitchener-Waterloo and Ottawa, Ontario and Calgary, Alberta. These three cities were first examined based on their ranking in an index of Canadian high-tech entrepreneurship by the Martin Prosperity Institute (Pennington, 2009) and were chosen because of their strong connections to the Canadian software industry, their history of entrepreneurial success or strong government support for IT startups. The index is based on the location quotient and growth rate of self-employed workers in high-tech sectors as well as the productivity of workers in this sector. In Pennington’s (2009) study, Calgary is the highest ranked city in Canada for its high-tech entrepreneurship environment, followed by Waterloo and Ottawa. Further analysis shows that each city has a thriving software sector and strong histories of entrepreneurship-based economic development, making them suitable sites for in-depth case studies. While there are differences in the economic and social make up of these three cities, as table 4.2 shows, they are reasonably comparable.

Table 4.2: Descriptive Economic and Demographic Statistics of Waterloo, Ottawa and Calgary

<table>
<thead>
<tr>
<th></th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2006)</td>
<td>451,235</td>
<td>1,133,633</td>
<td>1,079,310</td>
</tr>
<tr>
<td>% of labor force self-employed (2006)</td>
<td>8.77%</td>
<td>9.65%</td>
<td>11.82%</td>
</tr>
<tr>
<td>% of labor force in software occupations [NOCS C07] (2006)</td>
<td>2.27%</td>
<td>4.94%</td>
<td>2.52%</td>
</tr>
<tr>
<td>Immigrants as % of population</td>
<td>23.1%</td>
<td>17.6%</td>
<td>23.3%</td>
</tr>
<tr>
<td>% of population with bachelors degree or higher</td>
<td>14%</td>
<td>22.4%</td>
<td>19.6%</td>
</tr>
<tr>
<td>% of population between ages of 25 and 64</td>
<td>55.2%</td>
<td>57.2%</td>
<td>57.9%</td>
</tr>
</tbody>
</table>

Source: Statistics Canada, 2006
3. Research Populations

This project involves interviews with three distinct populations: entrepreneurs, investors and economic development officials. Semi-structured interviews were conducted with members of each group in order to identify the common entrepreneurial practices within the region, examine their connections with actors’ understandings of the ‘rules’ of entrepreneurship within the region, as well as to better understand the regions’ economic and social histories. Semi-structured interviews, as opposed to unstructured dialogues or standardized surveys, allow a set list of practices to be discussed while still allowing for the opportunity to probe the respondents on both their reasoning behind the practices employed as well as practices not listed in the interview guide (Berg, 2009). The use of an interview guide which includes a standardized list of entrepreneurial practices (detailed in section 3.1.1) allows for a comparison of practices between entrepreneurs based on their location, age or other types of difference, increasing the internal validity of the research (Bryman et al., 2009).

In total, 110 interviews were carried out in the three research sites between May 2010 and August 2011: 32 in Kitchener-Waterloo, 39 in Ottawa and 39 in Calgary (see Table 4.2). On average, the interviews lasted 40 minutes, leading to slightly more than 70 hours of recorded interviews, which were then transcribed and coded with the DeDoose qualitative analysis software (SocioCultural Research Consultants, 2012). The following subsections describe how research populations were constructed and contacted as well as the themes of the interviews.

<table>
<thead>
<tr>
<th>Table 4.3: Type and Location of Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entrepreneurs</strong></td>
</tr>
<tr>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>Investors</td>
</tr>
<tr>
<td>Economic Development Officials</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

3.1. Entrepreneurs

The sample of entrepreneurs should be as representative as possible of the entire population if entrepreneurial practices are to be useful for studying local fields. A great deal of
entrepreneurship research purposefully focuses on innovative or high-growth firms, leading to what has been called a ‘success bias’ that obscures the practices of firms without high growth potential (Terjesen and Elam, 2009). Focusing only on growth-oriented firms creates a skewed view of both entrepreneurial practices properties of the fields influencing entrepreneurship. Therefore, this study population includes the entire range of software entrepreneurs, from those creating high growth, innovative firms to those who have built small lifestyle firms with little desire for growth. A population of software entrepreneurs was created through Scott’s Corporate Directories, a Canadian business directory similar to the Dunn and Bradstreet directories used in the United States (Business Information Group, 2012). While Scott’s Corporate Directories are quite representative and has been used in previous studies to construct populations (e.g Bathelt et al., 2011(b)) some biases may be present. Firms may choose not be listed in Scott’s Corporate Directories in order to avoid sales calls and young firms would not yet have been contacted for their information. However, there is no evidence that this is a systematic bias, meaning that it is unlikely that certain types of firms (for instance, high-growth or immigrant-run firms) are being excluded from the population at a higher rate than other firms.

Scott’s Corporate Directories was used to create a population of 251 firms in Waterloo, 335 firms in Ottawa and 343 firms in Calgary from the six sectors discussed above. From this, all firms were eliminated that were founded more than twenty years ago, that were subsidiaries of larger companies, that were no longer in the region, whose founder had left the company or those that produced only consulting services. This created a sample frame of 84 firms in Waterloo, 94 firms in Ottawa and 97 firms in Calgary. These firms were then contacted at random until saturation was achieved, meaning that additional interviews no longer produced new information (Baker and Edwards, 2012). In total, 84 firms were contacted in Waterloo as well as 83 firms in both Ottawa and Calgary, leading to 23 interviews in Waterloo, 29 in Ottawa and 28 in Calgary (see Table 4.3). The response rates achieved compare favorably with other interview-based entrepreneurship research projects, especially considering the random-call method used in this project as opposed to snowball sampling or key informant interviews, which often have higher response rates but a generally biased population pool (Bartholomew and Smith, 2006). Table 4.5 breaks down the contacted and interviewed sample in each city by their primary industry.
Table 4.4: Population Size, Number of Interviews and Response Rate of Entrepreneurs

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Interviews</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo</td>
<td>84</td>
<td>23</td>
<td>27%</td>
</tr>
<tr>
<td>Ottawa</td>
<td>83</td>
<td>29</td>
<td>35%</td>
</tr>
<tr>
<td>Calgary</td>
<td>83</td>
<td>28</td>
<td>34%</td>
</tr>
</tbody>
</table>

Table 4.5: Primary Industry Classifications of Contacted and Interviewed Firms

<table>
<thead>
<tr>
<th>NAICS</th>
<th>Total Contacted</th>
<th>Total Interviewed</th>
<th>Total Contacted</th>
<th>Total Interviewed</th>
<th>Total Contacted</th>
<th>Total Interviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Waterloo</td>
<td>Ottawa</td>
<td>Calgary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Computer Equipment Manufacturing (33411)</td>
<td>10</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Software Publishers (51121)</td>
<td>12</td>
<td>4</td>
<td>20</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Data Processing and Hosting (51821)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Computer Systems Design (54141)</td>
<td>42</td>
<td>10</td>
<td>48</td>
<td>18</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>Other Scientific and Technical Services (54169)</td>
<td>6</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Engineering Services (54133)</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>NAICS not available</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: NAICS data not available for all firms in Waterloo; Source: Business Information Group (2012)

Scott’s Corporate Directories provides basic information about firms’ year of founding, number of employees and revenues,¹ which allows for a basic statistical comparison between the sample frame and the interviewed firms. Statistical differences between the interviewed and non-respondent populations were tested with t-tests. As Table 4.6 shows, the interviewed firms are generally representative of the populations from which they were drawn. The only exceptions are that interviewed firms in Waterloo are younger than the rest of the population and in Ottawa

¹Scott’s Corporate Directories does not provide exact data on revenues, but instead bins reported revenues into five categories, numbered 1-5: (1) less than one million dollars; (2) 1-5 million; (3) 5-10 million; (4)10-25 million; and (5) above 25 million.
tended to be smaller in both the number of employees and revenue levels compared to the overall population. The results from Waterloo and Ottawa are therefore less representative of younger firms and those in Ottawa of larger firms.

Table 4.6: Response Analysis for Entrepreneur Interviews by City

<table>
<thead>
<tr>
<th>City</th>
<th>Interviewed Average</th>
<th>Non-Respondent Average</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>18.9</td>
<td>27.2</td>
<td>-0.78</td>
</tr>
<tr>
<td>Year Founded</td>
<td>2001.3</td>
<td>1997.8</td>
<td>-2.51**</td>
</tr>
<tr>
<td>Revenue</td>
<td>1.92</td>
<td>2.11</td>
<td>-0.68</td>
</tr>
<tr>
<td>Ottawa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>11.8</td>
<td>24.9</td>
<td>-3.03**</td>
</tr>
<tr>
<td>Year Founded</td>
<td>1999.4</td>
<td>1997.5</td>
<td>-1.57</td>
</tr>
<tr>
<td>Revenue</td>
<td>1.42</td>
<td>2.15</td>
<td>-4.11***</td>
</tr>
<tr>
<td>Calgary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>25.3</td>
<td>34.5</td>
<td>-0.96</td>
</tr>
<tr>
<td>Year Founded</td>
<td>1999.8</td>
<td>1998.6</td>
<td>1.01</td>
</tr>
<tr>
<td>Revenue</td>
<td>1.92</td>
<td>2.23</td>
<td>-1.93</td>
</tr>
</tbody>
</table>

* significant at p < .1 ** significant at p < .05, *** significant at p < .01
Source: Business Information Group (2012) and interview data

3.1.1. Structure of Interviews

The 80 interviews with entrepreneurs constitute the main empirical data used in this research. These interviews consisted of three different parts meant to gather different types of data: (1) practices related the formation and growth of the firm (2) the entrepreneur’s habitus and background and (3) demographic and social capital data. The first part focused on the practices each entrepreneur employed as he or she founded and grew their company as well as their future plans. This involves questions about the firm’s background, their first identification of their entrepreneurial opportunity, their context around the decision to start the firm, their strategies (or lack thereof) for growing the firms, finding new customers and creating new products, their networking practices and the major challenges they have faced finding customers and workers. When possible, entrepreneurs were probed on why they did or did not carry out entrepreneurial practices that are commonly mentioned in the literature (such as searching for external financing or sharing advice and knowledge with other entrepreneurs) in order to understand why some
practices were employed or avoided. When entrepreneurs discussed employing a particular practice (or their decision not to use the practice), they were asked what factors led to this decision, such as if they learned the techniques from observing other entrepreneurs or from their previous educational experience. This portion of the interview was the longest and was designed to uncover the major practices entrepreneurs have employed as well as their reasons and rationale for their selection.

The second portion of the interview focused on the entrepreneurs’ habitus. This involved a discussion of their background, such as early entrepreneurial aspirations, educational history and how they first came to the region. The part also included a discussion of how entrepreneurship was viewed within their family in order to uncover how the respondent thought of entrepreneurship during the startup process. The purpose of this section was to understand the entrepreneur’s position within the local field, to understand how his or her habitus has affected their understanding of the field as well as the important institutions and other factors that have helped create this habitus.

The third portion of the interview gathered quantitative data on the firm and the entrepreneur. The first set of data requested were demographic characteristics such as the entrepreneur’s age, gender, self-reported ethnicity as well as characteristics of the firm such as its age, current revenues, profitability and number of employees. After this, a social capital survey was administered. The entrepreneur was asked if he or she had used any of six entrepreneurial resources that have been identified in the existing entrepreneurship literature (e.g. Harrison et al., 2004; Ebban and Johnson, 2006) as important resources for starting and maintaining an entrepreneurial firm. These resources are: (1) an emergency loan of less than $5,000; (2) an investment greater than $10,000; (3) a loan provided at a reduced interest rate; (4) a referral to a skilled accountant or lawyer; (5) a referral to someone who could aid the entrepreneur with marketing or sales and (6) a referral to an employee they have hired. Entrepreneurs who reported using one of these resources were asked details about who provided it, such as demographic information, their relationship with this person (e.g. a friend or a business colleague), if this person lived in the community and, if applicable, the amount of money they had received from this person. This social capital survey employed a resource generator, which asks for the types of resources used, rather than a possession generator (a more
common instrument in social capital research that identifies the professions of people within an actor’s social network). A resource generated is a better tool to study the actual resources in an entrepreneur’s network that have been used rather than the potential types of resources within a network (van der Gaag and Snijders, 2005). These data provides insight into an entrepreneur’s networking practices and allows a comparison of networking activities between communities.

3.2. Investors

The second population were investors. The purpose of these interviews is to examine investors’ practices for finding new firms to invest in, studying their potential investments and deciding the levels of risk they are willing to take on as well their perspectives on the region’s entrepreneurial environment. Three groups of investors were interviewed: venture capitalists, angel investors and bankers.

Venture capitalists are professional investors who raise money from outside sources (often pension funds or other large institutional investors) and invest it in early-stage firms with high growth potential. Venture capitalists work with the startup firms to help them commercialize their technological developments with the intent of helping the firm either be acquired by a larger company or release an IPO. Venture capital firms whose primary investment sector was the software or technology industry were identified through a venture capital directory and contacted for interviews (Canadian Venture Capital and Private Equity Association, 2012).

Angel investors are defined as those who invest their own money in startups. While angels can be anyone who invests their own personal wealth (typically at least $100,000 in liquid capital) in early-stage startups, many of the most active investors are former professionals with experience in the industry they are investing in. Angel investors typically invest at an earlier stage than venture capitalists and are often more actively engaged with advising the firm. This population is notoriously difficult to contact because they operate with minimal government oversight or registration. As Mason and Harrison (2002 p. 216) write: “there are no directories of business angels, their investments are not publicly recorded and most strive to preserve their anonymity.” This makes a systematic study of angel investors nearly impossible. Angel investors were identified in each community through discussions with local economic development
officials and through referrals from other angel investors and investment groups. This necessarily produces a biased sample — it is unlikely, for instance, to uncover very informal angels who have invested money only in one or two firms owned by people they already knew or who are not affiliated with any angel investment group or program.

Bankers involved with approving loans and investments in small firms were interviewed in order to better understand the relationship between entrepreneurs and the banking system. Because banks are the primary source of debt financing for small businesses (Riding, 1998), it is important to understand the loan application and approval process as well as any sources of regional variation in the Canadian banking system. Two groups of bankers were interviewed: front-line bank employees who deal directly with entrepreneurs and higher level bank managers who are in charge of business accounts. Bankers at the Royal Bank of Canada, Toronto Dominion Bank and the Business Development Bank of Canada were contacted for key informant interviews. Table 4.7 breaks down the types of investor interviews conducted in each city.

<table>
<thead>
<tr>
<th>City</th>
<th>Venture Capitalists</th>
<th>Angel Investors</th>
<th>Bankers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waterloo</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Ottawa</td>
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<tr>
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</tbody>
</table>

Interviews with investors focused on the practices they used as part of their investment decision. This entailed a discussion of how they identified potential investments, the extent to which they base their decision on quantitative or qualitative aspects of the investment opportunity, how they kept abreast of new developments in their industries of focus and the local market as well as how they gather information about firms and entrepreneurs they intended to invest in. Investors were also asked about their views on the local entrepreneurial environment and economy, particularly about their perceptions of risk tolerance in the region.
3.3. Economic Development Officials

Interviews with economic development officials were used to examine the role played by formal institutions, organizations, policies and programs in the creation and reproduction of local entrepreneurial fields. Officials were identified through an overview of each city’s economy and were contacted for key informant interviews. Interviews with this population focused on the economic history of the region, the various entrepreneurship programs their organizations offered and their perspectives on the region’s entrepreneurial culture and structure. These interviews were also used to obtain referrals to angel investors. While these interviews focused primarily on gathering factual information, it is important to keep in mind that such interviews are not an unbiased source of information (Harvey, 2009). One economic development official commented that she viewed interviews with academics as an important way of branding the city as an entrepreneurial region.

4. Data Analysis

4.1 Method of Analysis

The primary goal of the empirical work was to identify the patterns of entrepreneurial practices that have in the region and how these practices emerged from a combination of individual habitus and local and non-local fields. This form of analysis required a two-step approach, a historical overview of the local field and an in-depth analysis of the relationship between entrepreneurial practices and the field.

The first part involves a study of the fields present within each city through an examination of its economic and social history, with particular focus on the emergence of economic structures and institutions such as entrepreneurial cultures within local universities or dominant firms. This analysis was constructed through key informant interviews as well as secondary sources, including both academic research as well as historical or journalistic accounts of the regions’ economic and social histories. These sources highlight the ways in which the dominant fields have affected the region and help identify the most important formal and informal rules found there. Because it cannot be assumed that all fields affecting a city are local, it was necessary to examine the ways in which these fields are reproduced through local
processes. If the institutions and structures that reproduce a field are local (for instance, through a dominant employer or organization), then the field can be seen as having a strong local dynamic leading to local adaptations. In addition, the value of different forms of capital within the local fields were identified through interviews with key informants and entrepreneurs as well as existing research on the city’s economy. Beyond establishing the generalized rules of the local field, interviews with all three groups of respondents were used to analyze the common understandings of these fields within the community. The common views of the local field help define the nature of the local culture.

Once the contours of the field were established, interviews with entrepreneurs and investors were used to generate an understanding of the common practices found within each case study city as well as discuss how these practices are related to the local entrepreneurial field. Practices were identified through both direct questions (e.g. “Did you have a backup plan in case the firm failed during its early years?”) and an overall analysis of interviewees’ responses. An initial read through of the interviews identified 41 types of entrepreneurial practices. These practices ranged from how the entrepreneur first decided to start the business and how he or she structured an exit plan. These practices were combined with demographic information about the entrepreneurs collected during the interview, such as age, ethnicity and educational history.

These practices were linked to the field-based rationalities through a close dialogue method where the interviews are used to establish the actual decision-making logic that motivates practices (Clark, 1998). This connection was made through interview questions that probed the underlying reasons behind the practices respondents either performed or did not perform. From this, the emergence of practices can be examined through an analysis of the practices discussed by entrepreneurs and investors, the stated rationale for them and the observed structures of the fields in which they operate. These relationships between field and practice were triangulated against key informant interviews with economic development officials and statistical comparisons between case study regions to increase the internal validity of the analysis (Baxter and Eyles, 1997).
4.2. Structure of Empirical Analysis

Chapters 5 through 7 examine the connections between local cultures and entrepreneurial practices in Waterloo, Ottawa and Calgary. Because this project’s goal is to examine the relationship between entrepreneurial practices and local cultures, the focus is on individual case studies rather than thematic comparisons between cities. However, comparisons between regions are used throughout the empirical chapters to demonstrate that the dominance of practices in one city is either exceptionally high or low compared to the other two cases (or, alternatively, that these practices do not differ significantly from the other two cities). Emphasizing one case study at a time focuses on the relationships between practices in a region and its local fields and cultures, allowing for a stronger analysis of the reciprocal relationships between fields and practices as well as how different types of actors experience the same field in differing ways.

Each empirical chapter contains two parts: an overview of the fields found within the region and an analysis of how these fields influence the entrepreneurial practices of the region. The first part examines the nature of the fields found to influence the entrepreneurial practices of the city. Through an analysis of the fields’ historical origins and evolution to their present state, this portion of the chapter seeks to uncover the written and unwritten rules of the fields as well as how the local field’s structure influences how non-local fields affect the region. This analysis examines six core elements of the local field: (1) the history of entrepreneurship within the community, (2) how the field is reproduced through local processes, (3) the social status of technology entrepreneurship, (4) the dominant goals of technology entrepreneurship, (5) the most important forms of capital within the field, (6) and the role of formal organizations such as government or university programs as well as informal networking organizations in supporting entrepreneurial activities.

After the nature of the important fields within the region is identified, their relationship to four types of entrepreneurial practices are explored. The first set of practices examined relate to the initial formation of the firm. This involves examining entrepreneurial intentions: the reasons why the entrepreneur initially decided to start the firm. Intent is categorized as ‘push,’ ‘pull’ or ‘trip’ based on the entrepreneurs’ responses to questions about the founding of the firm and their preexisting desire to be an entrepreneur. Push entrepreneurship occurs when an entrepreneur is
forced into entrepreneurship due an outside factor such as the loss of a job and the individual turns to entrepreneurship as a way to replace that lost income. Pull entrepreneurship refers to those who were ‘pulled’ into entrepreneurship by a preexisting desire to be an entrepreneur or control their own economic destiny. Trip entrepreneurship occurs when an entrepreneur decided to start his or her firm only after first identifying an opportunity and carefully judging the risk; they would not have started the firm if a specific opportunity had not been identified. The frequency of these types of entrepreneurial intentions in a city are seen as more than just a reflection of their economic structures but as deeply connected to how entrepreneurship is understood within that community.

The second set of practices is related to the growth and change of the firm over time. These are practices related to entrepreneurs’ views on growth and their decisions and strategies on growing (or not growing) the firm, up to their potential exit strategies for the firm. Based on their firm’s growth history and their intentions for future growth, entrepreneurs are categorized as either growth-oriented or lifestyle-oriented entrepreneurs. The goal of growth-oriented entrepreneurs is to build a large, growing firm based on selling a technologically advanced product in national or international markets. In order to achieve these goals, growth-oriented entrepreneurs are willing to invest a great deal of their own personal wealth along with their time in their firm. Lifestyle entrepreneurs, on the other hand, primarily see entrepreneurship as a way to support themselves. Many lifestyle entrepreneurs started their firm because they were unable to find traditional employment or as a way to escape the hierarchical and bureaucratic culture of larger firms. As long as their firm is able to produce enough revenues to finance their lifestyle, they are hesitant to take the additional risks associated with growing the firm or developing new products. Entrepreneurs’ intentions are related to their beliefs about the purpose of entrepreneurship and thus are developed relative to their position within the local field. This section also deals with the emergence of specific entrepreneurial practices in the case study city, such as the high rates of a specific growth model found in Ottawa, the importance of developing entrepreneurial legitimacy in Waterloo or the naturalization of growth amongst Calgary entrepreneurs.

Third, financial practices are examined. These are practices related to how entrepreneurs have raised capital to start, run and grow their company, either through the decision to use their
own savings and personal debt or by taking on outside capital provided through informal loans or investments from their friends or family or formal investments from angel or venture capitalists. The decision to take on outside risk capital or to finance the entire firm through organic growth (revenues generated by the firm) is based within the norms and expectations of the local entrepreneurial field. This section draws heavily on interviews with investors and economic development officials, as well as with entrepreneurs, to establish the views on investment found in the region.

Fourth, entrepreneurs’ networking practices are considered. These sections draw on entrepreneurs’ responses to the social capital survey discussed above and their reported networking activities with customers, other entrepreneurs and investors. In particular, each empirical chapter examines the relationships entrepreneurs had with networking programs that local economic development organizations developed to see how entrepreneurs use of the programs reflects their habitus and field-based understandings of entrepreneurship. Entrepreneurs’ networking practices, such as how much they network and with whom (for instance, other entrepreneurs or potential clients) are potentially related to the local entrepreneurial field. In particular, in regions where being an entrepreneur produces a great deal of symbolic capital, networking between entrepreneurs designed to share advice about the challenges of growing a startup is likely to be more common because there is a social incentive to become a better entrepreneur.

5. Conclusion

This research uses a qualitative research approach to investigate the connections between local and industrial fields, regional cultures and entrepreneurial practices found within the software industries of Waterloo, Ottawa and Calgary. By categorizing practices using qualitative analysis software and a close dialog methodology designed to link the rationales for actors’ practices with the structure of the field, the following three empirical chapters show how a Bourdieuan framework can be used to explain the emergence and reproduction of unique sets of entrepreneurial practices and how regional cultures of entrepreneurship emerge and are reproduced. As has been argued in previous chapters, this approach allows for a much deeper understanding of the reciprocal connections between social structures such as culture and the
everyday and long-term practices and strategies carried out by entrepreneurs. As the case study chapters argue, the entrepreneurial practices observed in each city cannot be simply ascribed to an ‘entrepreneurial’ or ‘non-entrepreneurial’ culture, but are rather deeply rooted in the economic and social histories that have produced unique local fields leading to a specific form of entrepreneurial culture.
Chapter 5
Ubiquity or Division: Symbolic Capital and Entrepreneurial Culture in Waterloo, Ontario

1. Introduction

The Waterloo Region is frequently held up as an example of technology-led entrepreneurial and industrial economic development. The municipality, composed of the cities of Kitchener, Cambridge, and Waterloo, has produced a number of internationally competitive technology firms, such as Research in Motion (RIM, renamed BlackBerry in 2013) and OpenText, as well numerous smaller, R&D-based firms and is the home of research-intensive universities such as the University of Waterloo (UW). These success stories have given the region a reputation for innovation-based economic growth. Both academic and popular reports (e.g. Bramwell and Wolfe, 2008; Gillmore, 2012) have concluded that a particular local ‘entrepreneurial culture’ is a crucial ingredient of this growth. Indeed, as Nelles et al. (2005 p. 252) argue, “the legacy of Waterloo’s cultural roots, firm behavior, and core institutions is clearly visible in the contours of its [technology] industry.” Waterloo’s local culture is highly supportive of entrepreneurship, creating social rewards for both the entrepreneurs who take on the risk of starting a small, innovative companies and the investors and advisors who support them. While the existence of an entrepreneurially oriented culture in Waterloo is beyond question, the effects of this culture on Waterloo’s entrepreneurs are far from clear. The local field promotes a particular kind of entrepreneurship: innovation-driven, growth-oriented firms founded by UW graduates. Entrepreneurs who do not match this profile can experience difficulties integrating into the field and getting the local resources they need, like finance, advice and access to particular social networks. Therefore, to simply view Waterloo’s culture as supportive of all entrepreneurial endeavors is to ignore a more complex story of entrepreneurs’ diverse strategies and their relationship with the local field.

Waterloo’s local field is marked by two distinct entrepreneurial habitus, termed here ‘ambitious’ and ‘satisfier.’ Ambitious habitus normalizes aggressive growth and overcoming technical challenges. This habitus is particularly prevalent amongst UW alumni who have engaged with the university’s entrepreneurial culture. Entrepreneurs with a satisfier habitus have
a more cautious view of entrepreneurship, often seeking to grow their firms enough to support their lifestyle without exposing them to additional risk or occupying other parts of their life. These distinct habitus result in different understandings of the local field, which affects both the practices entrepreneurs employ as well as how they are treated by others within the field. Because the ambitious habitus represents the preferred type of entrepreneurship in Waterloo, entrepreneurs with this habitus have an easier time accessing resources within the community and are held in a higher social regard. While entrepreneurs in other cities also have these habitus, no other city studied exhibited such a great distinction in practices and experiences based on habitus as Waterloo.

To describe the emergence and consequences of these habitus, the chapter first discusses the historical context of entrepreneurship in Waterloo by exploring the connections between the region’s industrial history and its contemporary technology economy. Next, the unique features of Waterloo’s local field are discussed along with their relationships to non-local fields and how they create an entrepreneurial culture. The chapter then moves on to examining how this dual-habitus structure and entrepreneurial culture influence entrepreneurs’ practices as they have started and grown their firms. To conclude, the chapter questions the connections between a culture that supports high-growth entrepreneurship as opposed to sustainable economic growth.

2. Historical Context of Technology Entrepreneurship in Waterloo

The Waterloo Region has historically been a center of Canadian industry. Though originally founded as a farming community by Pennsylvania Mennonites, these settlers’ culture and language attracted German immigrants to the area throughout the late 19th and early 20th centuries. This immigration helped establish Kitchener (then called Berlin) and Waterloo as important industrial hubs of Southwestern Ontario. Over three-fifths of the region’s labor force was employed in industrial sectors in 1916, the highest rate in Canada (Bloomfield, 1987a) and by the 1930s, the region’s plentiful rubber and automobile factories had earned it the moniker of ‘Canada’s Akron’ (Bloomfield, 1987b). Though the overall importance of manufacturing in the region has declined since the 1950s, it remains a critical part of both the region’s and the province’s industrial economy (Bathelt et al., 2011(a)). Unlike other Canadian industrial centers,
which became one-industry towns or branch plant economies, the Waterloo region “was never dominated by a single mill-owner or industrialist, but remained open to new migrants or ambitious workers trying to establish their own business.” (Bloomfield, 1987a p. 19)

The legacy of the region’s Mennonite settlers, a people famous for their strong cooperative communities, is often cited as the source of the high levels of inter-firm collaboration perceived in the region. An economic development official suggested that: “if you’re trying to figure out what makes Waterloo tick, the heritage, the history here has been one of Mennonites mostly and the culture that brings is a very hardworking, collaborative culture.” (W107) A local banker made a similar argument, saying that Waterloo “is unique in terms of networking and associations…and I think that comes from the roots of this community, which is largely German, Mennonite backgrounds.” (W127) However, the reality of this connection is questionable. Few, if any, interviewees were able to articulate what the Germanic culture contributed to the contemporary economy besides a predilection for collaboration. By the 1940s, few of the region’s major firms remained in the hands of German immigrants or their descendants (Weiss, 1987) and there has been limited Mennonite engagement with the city’s technology sector. It is the discourse rather than reality of this culture that normalizes inter-firm cooperation. That is, even if there is little material connection between the region’s Mennonite or German history and its current economy, the belief in the importance of this background inspires or at least justifies some level of cooperation within the community. As one local venture capitalist suggested: “it’s a bit hockey to say it’s the history, but I do think there’s a little bit of that” (W115)

Rather than being a result of the region’s social history, Waterloo’s entrepreneurial culture and economy are more related to the area’s industrial heritage and the influence of the University of Waterloo. The region is famous for local firms that have grown into international leaders, including both high-tech companies like RIM, OpenText, and Desire2Learn as well as industrial firms such as Automation Tooling Systems. Beyond this, observers from both inside and outside the community see UW as a cornerstone for the region’s innovative economy (PriceWaterhouseCoopers, 2006; Bramwell and Wolfe, 2008). The university’s importance stems not only from its highly regarded engineering and computer science programs, but also from an institutional culture that promotes industry-relevant research and entrepreneurship
amongst faculty and students. The university’s applied and entrepreneurial orientation has played a major role in fostering and supporting the region’s transformation from a primarily industrial economy to a knowledge-based one.

Founded in 1957, the university was specifically conceived as a means to supply local industrial firms with skilled engineers and scientists (Nelles et al., 2005). UW’s first president, J.G Hagey, was a former executive of the Canadian division of the automotive supplier B.F Goodrich and invited the company’s Canadian chairman to sit on the founding Board of Governors along with several other local industrialists (Scott, 1967). Three critical institutions within the university emerged out of this early industrial connection that have had a profound influence on the local economy. The first is an organizational philosophy focused on application over theory. Early professors were hired in part due to their industry experience and willingness to engage in cooperative research projects with local firms (Scott, 1967). In 1966, UW established one of the first computer science departments independent of a mathematics program to encourage industry-relevant research (Ponzo, 1992). The university has constantly been ranked as one of the most successful Canadian universities in terms of industry-sponsored research, despite its small size and commercializing research through patents and spinoffs (Eastwood, 1987; AUTM, 2010; Kenney and Patton, 2011; Bathelt and Spigel, 2011).

Second, UW encourages students to complete several cooperative (co-op) terms spent working in private firms and organizations. Though this policy was controversial when first introduced, it has become one of its defining features (Scott, 1967; Bramwell and Wolfe, 2008a). The co-op program connects students with both local and international firms and allows them to act as a conduit both to transfer their university-based education to employers and bring back firms’ most pressing technical challenges to the classroom and laboratory. Finally, in 1997 UW formally instituted Policy 73, an intellectual property system codified the previously informal agreement that allowed faculty and researchers to retain the commercialization rights for any research they develop, as opposed to the conventional model where the university retains the rights to any developments. This policy encourages academic entrepreneurship by removing barriers to commercialization and incentivizing the effort needed to create a spinoff firm.
UW is commonly thought to contribute to the regional economy through technology transfer agreements with local firms and the creation of local spinoffs. However, there is relatively little evidence supporting this. Early investigations concluded that: “[the] University is not an important agent of technology transfer to existing firms in the Waterloo region,” (Eastwood 1987, 164) and recent studies have found few examples of sustained interaction between local firms and university researchers (Bathelt et al., 2011(a)). UW’s major role in the local economy is formal technology transfer but rather in the normalization of innovative and entrepreneurial activities amongst students and faculty. This in turn has helped support a larger regional entrepreneurial culture.

The university has several programs that help cultivate entrepreneurship amongst students. Students can spend their co-op terms developing their own startup firms. The VeloCity program provides living space, mentorship, and potential financing for teams of student-entrepreneurs and a bootcamp that supplies targeted financing and support for students to quickly create a software firm and the recently established HyperDrive program provides additional funding and support for entrepreneurial students. Even outside of these formal programs, the legacy of entrepreneurial alumni such as Mike Lazaridis, former co-CEO of RIM, and others raises the social profile of growth-oriented technology entrepreneurship amongst students and faculty. Their continued local presence and visibility is a constant reminder of the potential rewards of entrepreneurship to both new entrepreneurs as well as other actors such as informal investors and prospective employees. In the words of a local venture capitalist: “it’s very much a community that’s quite happy to help everyone. Even the CEOs of the large companies, whether it’s [former co-CEOs] Mike [Lazaridis] and Jim [Balsillie] at RIM or Tom Jenkins at OpenText….they will help the next generation entrepreneurs.” (W105) The success of firms like RIM and OpenText, which have grown from small, student or faculty-founded startups to multinational firms raises the profile of entrepreneurship in the community and demonstrates the potential rewards of entrepreneurial risk-taking.

Several processes help spread this entrepreneurial culture throughout the region. The past twenty years has seen the establishment of support organizations such as Communitech and Canada’s Technology Triangle (CTT), economic development agencies specifically oriented towards supporting high-tech entrepreneurship and innovation in the region. Beyond these
organizations, graduates who have started entrepreneurial ventures as well as those who have worked in larger organizations have continued to support local entrepreneurship. This support has taken the form of prominent individuals becoming entrepreneurs-, executives-, or CEOs-in-residence at Communitech or UW, as well as their participation in local networking organizations and informal mentorship of a younger generation of entrepreneurs. This is reinforced by the sheer number of UW graduates in the community. Of the three studied cities, more entrepreneurs interviewed in Waterloo attended local universities, 16 of 23 entrepreneurs (70%) compared with 25 of 54 (46%) in Ottawa and Calgary ($t = 1.97, p < .1$). This creates a large pool of skilled technologists who have already been exposed to a very entrepreneurial environment.

Communitech plays a significant role in instilling a technology-led entrepreneurial ethos in the community. Though the region has several economic development programs, including CTT, the Waterloo Region Small Business Office, and the Office of Economic Development, only Communitech is specifically tasked with supporting small and developing technology firms. Some of this support is direct, such as the Accelerator Center and Hyperdive incubators, which provide subsidized office space, early stage funding, and expert advising to selected local startups. Other programs provide less direct support to individual firms but help create a community that entrepreneurs can turn to when necessary. The organization’s peer-to-peer groups and networking events give entrepreneurs the opportunity to meet both other entrepreneurs as well as executives in larger firms and prospective investors, advisors and mentors. These events do more than simply help entrepreneurs connect with like-minded people: by allowing new entrepreneurs to meet with more successful entrepreneurs, Communitech helps promote a particular vision of high-growth technology-led firms. This vision helps reproduce the norms of the field of technology entrepreneurship within the region and encourages particular practices, such as young university graduates starting up high-tech, growth-oriented companies. Through its high visibility within the region through both its entrepreneurship programs and connections with the local media, Communitech is in a position to influence how the region’s field is understood, in effect allowing it to shape the local culture.

Waterloo’s contemporary technology economy did not develop linearly from its agricultural Mennonite origins. Rather, the region’s contemporary economic and social
structures have evolved in response to changing economic and social forces. The largest inflection point in the region’s economic history was the founding of UW, which helped transform a mid-20th century industrial community into a global center of technology development. Through its applied nature, the university acted as a base on which larger formal and informal entrepreneurial institutions were built in the community. The university alone did not create these institutions, but the global talent it attracted and the international prestige it built helped amplify and channel existing local outlooks towards entrepreneurship to produce one of the country’s most well-known entrepreneurial environments.

Waterloo’s local field is marked by a long history of entrepreneurship, which has served to increase the symbolic capital of entrepreneurship within the community. The importance of entrepreneurship in the field has been reproduced through several formal organizations, such as the University of Waterloo and Communitech as well as more informal institutional factors like the celebration of technology entrepreneurs in UW. These formal organizations and informal institutions serve to reproduce the elements of the local field by stilling an entrepreneurial outlook in the community, especially within the habitus of UW students. This has led to a situation where the local field legitimizes a particular form of entrepreneurship based around the creation of an internationally competitive technology product while delegitimizing other entrepreneurial practices such as creating stable long-term, growth-oriented through consulting activities.

3. Entrepreneurial Fields and Habitus in Waterloo

Waterloo’s economic and social history has produced a local field that has led to a unique set of entrepreneurial practices within the technology industry. This local field privileges a particular kind of entrepreneurship: firms with high growth potential based on technologically advanced products sold to an international market. Staring, working or investing in such a firm produces high levels of symbolic capital within the field, higher than in the two other cities studied and likely higher than many other North American cities. This level of symbolic capital attached to entrepreneurship is indicated by the frequent citation by all types of interviewees, entrepreneurs, investors and economic development officials of successful local technology startups. This creates culture that, in a words of a local banker, encourages “everybody you talk to wants to get
big [like the success stories], wants to grow real fast and to be able to get into the intentional markets as soon as possible, and all the entrepreneurs really try to be RIM….and realize that can be done.” (W128)

This symbolic capital helps actors establish their position within the field — in essence providing them with social standing — even if the symbolic capital is never fully transformed into economic capital. An economic development official argued that in Waterloo “[entrepreneurship] is part of our DNA….Entrepreneurs matter. It’s a badge of honor.” (W101) Several entrepreneurs agreed with this view and contrasted the high level of respect entrepreneurship has in Waterloo with other communities. One entrepreneur who grew up in a nearby city dominated by the steel industry said: “growing up in Hamilton…the culture there towards entrepreneurialism is a lot different than it is here. So as soon as you start talking to someone there about starting a company, about fifteen seconds in they suggest that you go and get a real job….While here in Waterloo region, it’s much more supportive.” (W106) Speaking of another city with a history of car manufacturing, a second entrepreneur suggested that starting his firm there would be more difficult “...if I was in Windsor the local economy would probably have a heightened disadvantage to someone that was trying to start up in [my] particular area….This area is hot. It’s an entrepreneurial hotbed.” (W125) Numerous interviewees discussed how an entrepreneurial ethos permeates the community and how, in the words of an entrepreneur: “….we’re just so lucky that everyone is prepared to share and be involved and that there’s a bunch of structured mentoring and networking and there’s a ton of informal stuff that just happens that people just take care of each other in the region.” (W115) These types of responses are typical of the high social status afford to high-tech entrepreneurship and entrepreneurs in Waterloo. Such activities gain symbolic capital through their celebration in the local media and the constant emphasis placed on the community’s entrepreneurial successes.

The existence of an entrepreneurial culture in Waterloo is unquestionable, but not all entrepreneurs experience this culture in the same way. Their experience depends on their habitus, which structures both how they perceive the field (that is, their comprehension of the rules of the local field), how they understand the culture and how they are treated by other actors embedded in the local field. Respondents’ habitus were classified as either ambitious or satisfier based on their perspectives about growth, goals for the firm, and thoughts on the proper role of
entrepreneurship. The classification of an ambitious verses satisfier habitus is based on the statements respondents made about these issues, not the size or historical growth of their firm. That is, an entrepreneur with a satisfier habitus can still own a large firm if the interview indicates that he did not fundamentally see himself as a growth-oriented entrepreneur. Eleven of the twenty-three respondents (48%) were classified as ambitious with the remaining twelve (52%) classified as satisfier. While it is likely that all regions have a mix of entrepreneurs with ambitious and satisfier habitus, Waterloo is unique in that this habitus plays a major role in how entrepreneurs experience the region’s entrepreneurial culture.

An ambitious entrepreneurial habitus represents an internalized belief that the goal of entrepreneurship is to produce a growing firm on the cutting edge of its industry. This habitus normalizes specific practices such as fast growth, investments in R&D, taking on outside capital and active networking in the community. In the case of Waterloo, these practices are legitimate within the local field. Interviews with both entrepreneurs and economic development officials suggested that this both makes it easier for these entrepreneurs to access the resources they need in the community and justifies the risks and investments these practices require. This habitus is most often found in UW alumni who have internalized the institution’s entrepreneurial ethos, either by actively participating in entrepreneurial programs or passively absorbing the university’s entrepreneurial outlook through their day-to-day activities. Of the 11 entrepreneurs with this habitus, 7 (63%) received their undergraduate degree from UW, compared to 4 of 12 (33%) with a satisfier habitus. Ambitious entrepreneurs who did not attend UW developed this habitus by working at other technology startups, such as one entrepreneur who attended the nearby Conestoga Community College but worked in a high-tech startup in Vancouver before returning to Waterloo to create his own startup.

A satisfier entrepreneurial habitus represents internalized dispositions that prioritize slower, sustainable growth and achieving a work-life balance. The goal of this type of entrepreneurship is not necessarily to maximize economic profits, but rather to support a particular lifestyle without creating undue risk. Practices such as technological development or rapid growth are perceived as being less valuable and therefore avoided in favor of practices that reduce risk and promote stability. Such practices are marginalized by Waterloo’s entrepreneurial culture and field. Practices that create stable, slow growing firms generate little symbolic capital
for either the entrepreneur or others associated with the firm. This discourages others from providing support or resources to these types of entrepreneurs.

4. Firm Formation

The practices entrepreneurs employed as they initially developed their firm are instructive in understanding both Waterloo’s entrepreneurial culture as well how it was experienced by different groups of entrepreneurs. This section discusses two such sets of practices: how entrepreneurs originally decided to start their firm and their selection of an initial market. The first practice demonstrates how particular patterns of practice are enabled by the region’s entrepreneurial culture and the symbolic value of entrepreneurship produced within the local field. The second examines how entrepreneurs’ differing habitus leads to different perspectives about what initial market selection practices make the most sense given their goals and expectations.

4.1. Startup Intentions

The high social status of entrepreneurship in Waterloo can be seen in the preponderance of actors pulled into entrepreneurship by a preexisting desire for the freedom and challenge of an entrepreneurial endeavor, rather than being pushed into it by outside forces or simply observing an opportunity and electing to pursue it. Eleven of twenty-three (48%) entrepreneurs interviewed in Waterloo were pulled into entrepreneurship, compared to 10 of 28 (26%) in Ottawa and 8 of 29 (30%) in Calgary (see Table 5.1). Though the differences between Waterloo and Ottawa ($t = 1.61$) and Waterloo and Calgary ($t = 1.31$) are not significant, the numerical differences between the communities along with the entrepreneurs’ discussions about why they first started their firm suggest there are a higher number of people in Waterloo who are attracted to the entrepreneurial lifestyle than in Ottawa or Calgary.
Table 5.1: Entrepreneurial Intentions of Firm Founders

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<td>Pushed or Tripped into entrepreneurship</td>
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<td>51</td>
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<td><strong>Total</strong></td>
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<td><strong>29</strong></td>
<td><strong>28</strong></td>
<td><strong>80</strong></td>
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</tbody>
</table>

*Source: Interviews*

There are two reasons for the high rates of pull entrepreneurship in Waterloo. First, there appears to be a higher rate of individuals predisposed to entrepreneurship in Waterloo. While there are no statistical data to prove this, anecdotal evidence from this study suggests that UW attracts students with a preexisting desire to become entrepreneurs due to its reputation as a leading entrepreneurial university as well as the region’s well known entrepreneurial history. These students then stay in the community to form a startup after graduating due to its supportive environment. For one recent UW graduate: “I didn’t choose [Waterloo] consciously. I was here, it was convenient. But once we started to launch the business, the exposure to the entrepreneurial community was what made me decide that Waterloo was going to be my home.” (W114)

Second, the presence of other successful entrepreneurs in the region raises the social status of entrepreneurship and makes it easier for those with preexisting entrepreneurial intentions to overcome any economic and social barriers to entrepreneurship. For one entrepreneur who grew up in an area without such a culture: “I didn’t think I’d end up being an entrepreneur because [there] wasn’t an entrepreneurial culture….So I probably grew up thinking about it, but it was discouraged.” (W106) Only after moving to Waterloo, with its more supportive entrepreneurial environment, was he able to transition his preexisting entrepreneurial desires into a new firm. These two factors combine to create a population that is both more predisposed to entrepreneurship and thus more likely to be ‘pulled’ towards entrepreneurship.

Even within the group pulled towards entrepreneurship, individual habitus led to substantial differences in how actors understood the role and purpose of entrepreneurship. Those with an ambitious habitus were likely to see their desire to start a firm as rooted in an aspiration to overcome technical challenges and build a cutting-edge product. This differs from satisfier entrepreneurs who, in general, decided to start their own firms in order to have direct control
over their economic destiny and freedom from corporate hierarchies and control. Recent UW graduates often demonstrated a habitus that favors the former. In the words of a young serial entrepreneur: “a lot of people jump into a new business or run their own business because they want control, they want to steer the company….Whereas I started [my firm] and got involved because I wanted to prove that we could do better, I wanted to have fun.” (W114) An older entrepreneur and former UW professor displayed similar sentiments when explaining his decision to start a firm: “I just saw that we developed some technology and that it would be shame to let it sit.” (W119) On the other hand, satisfier entrepreneurs, in line with the existing literature, often decided to form the firm in order to realize control over their own economic destiny or because they did not like working for other people. One such entrepreneur started his own firm because of “….a desire not to be working for ‘The Man.’” (W103) Another discussed how he was “….let go from five jobs as a teenager [for] disrespecting authority or other reasons” before he decided to go into business for himself (W113).

Waterloo’s culture encourages those with preexisting entrepreneurial intentions to undertake the risk and expense of starting a firm by increasing its social status and highlighting the potential social and economic rewards. However, this culture is felt differently based on entrepreneurs’ habitus and position within the field. Those with an ambitious habitus saw the culture as enabling their desire to build an organization capable of solving a complex technological challenge. Entrepreneurs with a satisfier habitus interpreted this culture as encouraging them to take control over their economic destiny and build an organization capable of supporting them and their families. However, even though this culture motivates both types of entrepreneurs to start their own businesses, they frequently experience difficulty getting access to the local resources because their form of entrepreneurship generates little symbolic capital in the region. In the consciousness of most of Waterloo’s entrepreneurial actors, including both investors as well as many economic development officials and political figures, true entrepreneurship is performed by those with an ambitious entrepreneurial habitus, not a satisfier one.
4.2. Initial Markets

The role of Waterloo’s local field can also be seen in how entrepreneurs selected their initial market. In a practice rarely observed in either Calgary or Ottawa, recent UW graduates with an ambitious entrepreneurial habitus were often willing to start their firm without a clear market or product idea. This practice was observed five times in Waterloo, compared to once in Ottawa and was not found in Calgary. These entrepreneurs started off by consulting in their areas of expertise while scanning the market for potential opportunities. This practice is possible because these entrepreneurs not only possessed their technical human capital but also the cultural and symbolic capital of being a UW alumni, which helped legitimate the practice of starting a firm without any concrete plans or customers. Without this symbolic capital, the practice of starting a firm without a concrete idea of what they would make or who they would sell it to would likely appear to others as illegitimate, making it hard to get the material and emotional support they required. In the words of one such entrepreneur: “we incorporated the company even before we had the idea. We decided that there were three of us, we’re smart guys, let’s see if we can’t figure out how to do this.” (W117)

Satisfier entrepreneurs were more likely to only begin their entrepreneurial endeavors after identifying a profitable market niche. Several delayed starting a firm until after they had identified an opportunity that minimized risk, such as by taking on existing customers from their previous job. As one such entrepreneur described his startup: “it’s very easy [to start a firm]….When you start, you find some people, some friends, who have a business opportunity to give you….It’s pretty easy.” (W105) These practices are related to an entrepreneur’s goals and life-course. An older potential entrepreneur with a family to support is not able to take on the risk of not having a target market or immediate sales, while a younger entrepreneur with no dependents can.2 Ambitious entrepreneurial practices like starting a firm without a detailed strategy are also enabled by the legitimacy and symbolic capital granted to technically advanced, young entrepreneurs by both the local field and the technology industry field. What would be an

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2 There are three notable exceptions where older entrepreneurs with families started growth-oriented firms without immediate knowledge of their final products or customers. In two cases, the entrepreneurs had enough savings from previous jobs to support their families during the startup phase. The third entrepreneur was well aware that he had “….not given my family the Christmases or vacations that they deserve” (W118)
extraordinarily risky practice by entrepreneurs in a different position within the field is a more sensible choice to those whose position within the field normalizes the risk of a high-tech startup.

5. Firm Growth and Change

Entrepreneurs’ divergent experiences with Waterloo’s entrepreneurial culture are clearly visible when examining their experiences as their firms grow and change. Entrepreneurs views on growth reflect their deeper understandings of what it means to be an entrepreneur. These views — and the practices they lead to — substantially affect an entrepreneur’s perceived legitimacy within the local field. Entrepreneurs whose vision for the firm does not match expectations within the local field will not appear legitimate to other actors deeply embedded in Waterloo’s entrepreneurial culture. This section examines the relationship between the region’s culture, entrepreneurs’ habitus-based views on growth, and the practices they employ to generate legitimacy within the field. The practices entrepreneurs develop to build and maintain their legitimacy depend on how others perceive their entrepreneurial endeavor.

5.1. Views on Growth

Growth has very different meanings for entrepreneurs based on their habitus and position within the local field. Ambitious entrepreneurs see growth as a natural part of the entrepreneurship process, something to be expected and embraced. Those with satisfier entrepreneurial habitus perceive growth very differently. Growth is simultaneously an opportunity and a challenge that must be managed. Entrepreneurs’ relationship to growth is one of the major factors affecting their interaction with Waterloo’s entrepreneurial field and the actors in it. Those who have the ‘correct’ attitude towards growth will generate the legitimacy needed to get the resources and support they need from the community. Those who do not embrace growth will encounter difficulty accessing resources these same resources.

Naturalized views of growth mean that the entrepreneur sees growth as an expected part of the entrepreneurship experience. Summing up this view, a growth-oriented entrepreneur compared his own perspectives on growth to his father’s: “his model was 10% growth year over year for 30 years building a good sized business....Whereas my business model is to spend
money like crazy, build some stuff and hit the ramp.” (W117) A variety of practices are employed to embrace this kind of growth. Several ambitious entrepreneurs either completely avoided startup strategies that depended on spending time consulting (which, while profitable, would lead to linear growth) or stopped such activities as soon as possible. A young serial entrepreneur’s experience is instructive of this. Early on in the firm’s life, he was “... providing IT consulting services and then I realized that what’s not good about that is that there’s no differentiator.” (W102) Instead he shifted from web design to building a web infrastructure for clients in exchange for a percentage of their sales, generating a continuous revenue stream. Others took longer to abandon their consulting activities but saw the shift as a necessary one. These entrepreneurs typically saw this as a phase in which they “...learned about the market through consulting and then developed a product and built reference customers,” but a phase from which “...we never looked back.” (W111)

Satisfier entrepreneurs viewed growth differently. While growth was seen as important, they weighed it against the extra risk it entails. These entrepreneurs chose practices and strategies designed to manage growth by either slowing it down or avoiding it completely. For these actors, high growth or revenues are not the goals of running the business, rather in the words of one such entrepreneur: “[I] just want something that they can enjoy on a day-to-day basis and which will leave [me] enough money to retire.” (W104) Maintaining this enjoyment often requires entrepreneurs to avoid growth by refusing new clients or partnerships. As a lifestyle entrepreneur recounted: “….unlike a lot of other entrepreneurs, we could have added sales people along the way on a commission basis….But I’ve reached my limit as far as what I’m willing to invest in the business.” (W120) Compared to ambitious entrepreneurs who see growth as a natural part of the startup experience, these entrepreneurs have a more cautious approach to growth. This view is rooted in their habitus, which values other capital beyond the symbolic capital produced by high-growth, high-risk entrepreneurship.

Even when satisfier entrepreneurs were more accepting of growth, it was still seen as a force to be managed rather than simply accepted. Multiple entrepreneurs who exhibited traits of satisfier habitus but who nonetheless had experienced substantial growth employed strategic planning practices to control their growth. For the owner of an IT-planning firm with revenues over $1.5 million: “the most important thing about businesses now, and it equals the playing
field for small companies, is strategic planning.” (W106) The owner of a growing digital media company expressed similar sentiments recounted that: “we did strategic planning sessions sometime around year 3 or 4. We made conscious decisions to take it up another notch as we went….we went through a process of deciding what we wanted to company to grow into.” (W108) This was not growth for growth’s sake, but rather a strategy to move away from simply producing digital media for clients towards an agency model where it would be “….more fun to work with a client, to get their idea and be a conduit into translating it into something that’s relevant while still maintaining our creativity.” (W108) Growth is not universally seen as a negative by satisfier entrepreneurs — many viewed it both as a blessing and a curse. This differs from the views of ambitious entrepreneurs who may recognize that too much growth can hurt a company but who still see constant growth as a natural part of being an entrepreneur.

5.2. Growth and Legitimacy

Entrepreneurs’ attitudes towards growth played a major role in their legitimization and access to resources within the local field. Waterloo’s local field legitimized growth-oriented practices, which in turn normalized the risks growth-oriented practices entail and helped founders’ acquire resources and support from within the community. Practices that limited growth were seen as illegitimate, making it difficult for certain entrepreneurs to access critical networks or support from institutions embedded in it. A good example of the challenges slow-growth practices created in Waterloo was a software entrepreneur in the semiconductor industry who chose to minimize his firm’s growth. Despite producing a high-tech product based on university research, he experienced difficulty working with local organizations such as Communitech and the Accelerator Center:

I was actually going to get this [help] from the University of Waterloo – they offered Accelerator Centre space. I was going to get that space, but I was turned down. The reason is that they are simple: we don’t grow very fast and they want us to grow much faster and they don’t believe we can. So basically it is like a trust thing — they don’t trust us somehow, not in terms that we’ll fail but they don’t believe we can grow fast enough to be beneficial to them. They have to have a company that will grow twice [as much] a year and they don’t see the potential in our company at the same time. (W123)

Because he selected practices that prioritized his own enjoyment (e.g. working alone) over quicker growth, his entrepreneurial venture was deemed less legitimate by actors deeply
embedded in Waterloo’s entrepreneurial field. This entrepreneur thus lost access to local resources because his habitus and therefore practices does not match field-based, cultural expectations of what a ‘legitimate’ entrepreneur should be, although the firm’s other characteristics (selling a technology-based product) are highly valued in the community.

Resources were more forthcoming for entrepreneurs who more closely matched the local field’s definition of a legitimate entrepreneur. Another firm that worked with the Accelerator Center continued to receive support despite taking several years to create a product or generate revenues. The firm’s founder reported that the feeling among the angel investors and advisors in the center was that: “we [the firm’s founders] are motivated guys and we’d figure it out eventually.” (W117) This is because within Waterloo’s field, being a legitimate entrepreneur is not necessarily connected with developing a product and generating profits. Rather, legitimacy is based on an entrepreneur’s ability to articulate a vision for growth, even if the product or strategy underlying that growth has yet to be developed. Other startup firms which generated symbolic capital through their high tech products were able to use this capital to enact particular practices that helped them cope with the uncertainty of the technology market. For example, one entrepreneur in the telecommunications market was able to convince employees to forgo their salary until the product was on the market, This practice was only possible because workers were willing to trade the economic capital of timely pay for the symbolic capital of working at a high-tech company and developing a high-tech product: “we were all about created a great product and getting excited about having a really cool product in the market place. Technology people tend to see that as a reward, not just money but quality of life.” (W130) This suggests that within Waterloo’s field, the symbolic capital of having the characteristics of a technology entrepreneur and displaying a vision for future growth appears to be more important in establishing entrepreneurial legitimacy than the actual economic capital of current revenues.

6. Financing

The differing views entrepreneurs exhibited on the legitimacy of taking money from friends and family further illustrates the cultural divide in Waterloo between ambitious and satisfier entrepreneurial habitus. Satisfier entrepreneurs saw accepting this form of capital as a delegitimizing practice that called into question the firm’s stability while those with ambitious habitus saw this form of funding as a common part of the entrepreneurial process. Nine of
twenty-three respondents (39%) received investments from their friends and family, a rate not substantially different from those found in other cities. Of these nine, four received loans and five received equity investments. As Table 5.2 shows, the type of capital they received was clearly reflected in their habitus.

Table 5.2: Types of Friends and Family Capital Employed by Entrepreneurs in Waterloo

<table>
<thead>
<tr>
<th>Friends and Family Capital as</th>
<th>Friends and Family Capital as</th>
<th>Total (Received Friends and Family Capital)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan</td>
<td>Investment</td>
<td></td>
</tr>
<tr>
<td>Ambitious habitus</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Satisfier habitus</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Interviews
($\chi^2 = 2.97, p < .05$)

All the loans were given to satisfier entrepreneurs by their families, either as startup capital or as an emergency loan during a crisis. In many of these cases, the loans were accepted begrudgingly or as a last resort. As one entrepreneur explained:

I did borrow some money from my father for the business. But that is an absolute last resort, something that I don’t want to do, something that because when cash flow is very bad with the business, it’s hard to pay them back. And they’re very forgiving of not being paid back, but you just don’t want to do that (W112)

This reflects a view that taking money from family and friends delegitimizes their entrepreneurial endeavor by signaling that they could not succeed without outside help. This view was associated with satisfier entrepreneurial dispositions towards growth, in which expansion (and the capital it requires) is a trade-off with risk, control of the company, and time spent with other pursuits. From this perspective, taking money from friends and family risked merging a social relationship with business decisions, as one entrepreneur suggested when explaining why he turned down a potential loan from a friend: “it’s about ownership. I didn’t want to discuss the ownership of the company and so I said it’s not crucial to get $100,000 and I can get it from the bank if I want it.” (W123)
Of the five entrepreneurs who received equity capital from friends and family, four were classified as having ambitious habitus. Instead of seeing friends and family capital as a burden to be avoided, these entrepreneurs proactively approached their friends and family for equity investments rather than loans. This action reflects a belief that this capital is not a stopgap solution but rather an investment in the entrepreneur himself (all cases involved male entrepreneurs). These entrepreneurs did not see their requests as pleas for support, but rather as opportunities for mutual benefit. Describing his thoughts on asking his family for investment, one entrepreneur responded: “….when you’re asking family for a [home] loan, it’s very much ‘can you help me out?’….When you’re trying to launch a venture though, it’s not the same mindset as borrowing money. It’s that I’m participating and embarking on something exciting, do you want to participate and get the same rewards?” (W114) This approach reflects a substantially different habitus, one that sees friends and family capital as a common part of the startup process.

It is important to note that nearly two-thirds of the entrepreneurs interviewed, including 72% of ambitious entrepreneurs, did not report receiving capital from friends or family. While the rate of such investment in Waterloo (28% in this sample) appears to be higher than the Canadian average of 12% (Industry Canada, 2003), this form of financing remains uncommon in the region. A local venture capitalist estimated that only one-third of the firms he evaluated received such capital. The reasons behind the low rate of usage among satisfier entrepreneurs are apparently related to their desire to limit growth to sustainable levels, which reduces the need for outside investment. Ambitious entrepreneurs who have not received friends and family capital reported a variety of reasons. For some, their firm had not grown to the point where outside investment was necessary. Others did not think that their friends and family had the disposable income necessary to make a sufficient investment or had the expertise necessary to be able to judge the risk of the investment or provide any support beyond simple financing. Despite the importance of informal capital in the entrepreneurship literature, many ambitious entrepreneurs

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3 In one case, a satisfier entrepreneur received an investment from a family friend. However, while this entrepreneur was classified as a satisfier entrepreneur due to his firm’s lack of growth potential, he was a UW graduate who envisioned that in the future he would start a high-growth entrepreneurial firm.
made the decision that the time and emotional energy needed to obtain friends and family money was not worth the economic capital it would provide.

While these perspectives on friends and family capital are rooted in Waterloo’s entrepreneurial culture, the symbolic value of this capital to ambitious entrepreneurs is not unique to the region. Rather it indicates the connections between the local field and the larger field of the technology industry, which has a history of major firms starting with help from family and friends. Both local and global examples of successful friends and family investments legitimize this practice. However, seeking capital from family and friends is a practice that seems legitimate and acceptable only when performed by Waterloo’s ambitious entrepreneurs. Those that do not have this habitus see the same practice as a sign of failure. Neither Calgary nor Ottawa had such a strict divide. This points to the different ways that different types of entrepreneurs, even within the same industry, experience the region’s entrepreneurial culture.

6. Networking

The heart of Waterloo’s entrepreneurial culture is its strong ethic of social networking. On the social capital survey given to entrepreneurs, respondents in Waterloo had an average score of 2.61 out of 6, compared to an average of 2.21 Ottawa and 2.04 in Calgary. The social capital survey asked entrepreneurs which of six different resources they had drawn on in the course of starting and running their business. Higher scores suggest a larger network and better ability to draw out resources from their social connections. Even though this is not a significant difference ($t = 1.29, p = .21$), the difference between Waterloo and the other two cities is still striking. Entrepreneurs in Waterloo were more likely to use their networks to acquire resources, suggesting that not only are their networks larger than their counterparts in other cities, they are also more willing to employ them to gain resources. Supporting these networks is one of the primary goals of the region’s various entrepreneurship support organizations. These organizations have done more than simply provide a platform for communications: by building on the region’s collaborative history they cultivated a culture that encourages constant interaction and knowledge sharing amongst members of the region’s high-tech community.

The most popular view of networking in the region, as expressed by one well-connected entrepreneur is that: “….here, unlike any other community that I’ve lived or worked [in], there’s
a strong sense of not just a desire, but a responsibility, to help up and coming companies, especially technology companies.” (W114) This entrepreneur went on to observe that: “….we do a good job of integrating people into the community and that builds strong ties….I’d hazard a guess that we have more individuals in this community that have very broad, expansive networks than other communities.” Local economic development officials had a similar view of regional networking, with one stating: “what you’ll find is that this community is very well networked. There are networking functions daily. I can go to any of those functions and know most of the people in that room. And we all circulate in different circles, but we’re all connected” (W107) Comments like these suggest that networking is a highly valued practice in the field, both for entrepreneurs and other members of the business community who can help them.

Much like perceptions of growth and financing, entrepreneurs’ habitus had a significant affect on their networking practices. The average social capital score for lifestyle entrepreneurs in Waterloo was 2.0 compared to 3.27 for growth-oriented entrepreneurs, a difference of 1.27. This is a significant difference ($t = 2.21 \, p < .05$), which the differences between growth-oriented and lifestyle entrepreneurs in Ottawa (0.83) in Calgary (0.45) are not (see Figure 5.1). This suggests that while even lifestyle entrepreneurs in Waterloo are more likely to have larger networks than those in other regions, the networks of growth-oriented entrepreneurs are even more expansive. Networking is seen as a critical part of growth-oriented entrepreneurs’ daily lives in Waterloo. To this group, networking provides both immediate rewards in terms of access to knowledge and potential customers as well as laying the groundwork for future growth by connecting them with potential investors and partners. One entrepreneur described his

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4 Entrepreneurs in the other study cities were not categorized as ambitious or satisfier entrepreneurs, requiring that this comparison be based on the firms’ growth practices rather than their founders’ habitus. There is a strong, though not complete, overlap between growth-oriented practices and an ambitious entrepreneurial habitus in Waterloo.
networking activity as “….building the relationships. We’ve got the foundation laid, we know the right people. So when we’re ready for money, it won’t be a problem getting it.” (W110)

Figure 5.1: Box Plot of Social Capital Scores for Lifestyle and Growth-Oriented Entrepreneurs in Calgary, Ottawa and Waterloo

Source: Interviews

The importance of networking to this group of entrepreneurs is reflected in their active networking practices. Active networking, the act of going out into the community and meeting new and existing contacts through formal and informal means, requires an investment of time and energy that could be spent working on a firm’s internal needs or on other lifestyle pursuits. Ambitious entrepreneurs frequently discussed meeting with other local entrepreneurs to both learn from them and benchmark themselves: “you find that you want to stay in touch with people just to see how you’re doing compared to them. It’s competitive, so you want to compare financials. Who’s doing better this year?” (W110) Another entrepreneur described a local community of “…twenty-five maybe thirty, not necessarily just CEOs, but firm founders, that I could name off that all know each other. We don’t compete, so we like to share information.” (W117) Communitech’s peer-to-peer events are an important platform for this kind of networking. Younger entrepreneurs often discussed these groups as a key tool in learning about
the challenges of management, as one such entrepreneur described: “when I say you can get anything that you want from Communitech, the truth is you can get anything you need from the community. Communitech is the hub where you can access that. Peer to peers, you get to go and learn about problems other CEOs are having and how they’re solving them” (W117).

However, not all growth-oriented, ambitious entrepreneurs have equal access to networking opportunities in the region. Firms outside the software industry found it difficult to utilize the networking platforms created by Communitech and other institutions. The founder of a biotech firm noted that for him: “[Communitech is] not as valuable as it is for most companies in Kitchener-Waterloo. They have, at least until recently, been focused on the type of companies that usually grow up here, which are in [the] software area….they don’t really have much that can help us.” Similarly, an entrepreneur in the optics industry commented that to many in the community “…although we use a lot of technology, we’re not considered high-tech. We’re not using just computers, we actually have lenses and stuff that’s 400 years old.” (W116)

This issue was most apparent for the founder of a firm that makes stands and supports for computer equipment in the medical sector. While the firm’s product is not high-tech, it is one of the largest startups in the region and has experienced many of the same challenges of growth and financing as other high-tech firms. The founder attended nearby Conestoga College rather than a university, meaning that he does not have the same cultural capital as other entrepreneurs. These two factors appear to have made it difficult to been seen as a legitimate high-tech entrepreneur. When he decided that he needed to bring on an outside CEO to help his company grow he did not turn to Communitech for help finding one, despite the organization having several programs to connect entrepreneurs with potential advisors. He instead found one through his church. There is no evidence in the interview that he was purposefully denied access to this program because he did not fit the model of the typical technology entrepreneur. Rather, he was seemingly excluded from Waterloo’s high-tech entrepreneurial community due to the informal, unwritten rules of the field, which reward the symbolic capital of technology development and the cultural capital of a UW education.

This case demonstrates two important points about the role of networking within Waterloo’s field. The first is that entrepreneurial legitimacy plays an important role in what
resources actors can access. Entrepreneurs like the one above have a harder time accessing resources provided by local support agencies which prioritize high-tech, growth-oriented entrepreneurship. Those that do not meet the field’s particular definition of legitimacy need to find practices to compensate, either by finding ways to appear legitimate or identifying alternative resources (such as finding a CEO through a church rather than Communitech).

Second, despite the fact that this entrepreneur does not meet the traditional definition of a high-growth entrepreneur, he still is an active networker who sees the constant expansion of his network as a critical part of his business. Even though he is not a high-tech entrepreneur, he has still absorbed the local field’s outlooks regarding networking practices and social capital. In his words:

> You’ve got to get connected; you need to talk to other people….I don’t know of any other way. You go to college and you meet some people like I did. You talk to people because eventually you’ve got to meet a banker, you’ve got to meet a lawyer, you’ve got to meet an accountant (W113)

Satisfier entrepreneurs, however, had a very different view of networking. To this group, networking is not a core part of the business and therefore placed a lower value on social capital than ambitious entrepreneurs. As one firm owner suggested: “there are a few things that have a side interest to us and we could join, the problem being that there are so many other things to do.” (W104) Organizations like Communitech serve little value to this group because, in words of one such entrepreneur, it is made up of “….a bunch of young guys who sold their businesses at a young age….that [think] they’re geniuses.” (W103) When these entrepreneurs attend functions hosted by Communitech or other local organizations, they do so as part of an effort to find new customers rather than to gather information about new markets or technologies. For them, networking that does not produce immediate benefits is a distraction from other activities. It is important to note that this view is not universal within the group of satisfier entrepreneurs; one reported taking classes to improve his networking skills and another spoke highly of Communitech's CEO group. While this view was in the minority in Waterloo, it was very common in both Ottawa and Calgary.
7. Conclusion

Waterloo’s entrepreneurial field promotes a particular kind of entrepreneurship through the symbolic capital attached to particular practices associated with high-tech, high-growth firms. This symbolic capital, and the belief that it can eventually be translated into economic capital, has helped foster a supportive entrepreneurial environment by ensuring that policy makers, investors, and other members of the community believe in the social and economic importance of growth-oriented startups. The symbolic capital attached to entrepreneurship is well recognized within the community, which helps create a regional culture that honors and supports technology entrepreneurship. This culture encourages skilled technologists to start companies with the vision of building a technologically-advanced company and encourages others to support this vision, by investing in or working at the firm. Waterloo’s entire entrepreneurial environment, from formal institutions like Communitech to the informal institutions that normalize intensive networking and mentorship, are predicated on this entrepreneurial culture.

This chapter has detailed how differences in entrepreneurs’ habitus have affected the practices they employed as they start and grow their firms, along with how they approached informal investors for capital and networked within the region. Some of these practices are imposed by institutional constraints, such as satisfier entrepreneurs’ problems accessing Communitech programs and consequent trouble networking. More frequently these practices emerge from a habitus-based understanding of their entrepreneurial goals. Entrepreneurs choose the practices and strategies that make the most sense to them, given both their long-term goals and their current context. Both their goals and their contexts are shaped by the fields in which they are operating.

These habitus are not exclusive to Waterloo; differences between ambitious and satisfier entrepreneurs are a widespread phenomenon. Indeed, this distinction may not related to the specific local culture but rather to the overwhelming influence of the global technology entrepreneurship field. However, this view ignores the role that organizations like UW and Communitech play have played in creating the distinction between the two habitus. Their position within the community gives them power to reproduce the structures of the field that prioritize one view of entrepreneurship over others. As this chapter has argued, these organizations have helped make the act of being associated with a high-growth, high-tech firm
generate a great deal of symbolic capital, helping to increase the social status of both high-growth entrepreneurs as well as those who advise, mentor, and invest in them. The value of this symbolic capital is not the result of the technology entrepreneurship field, as evidenced by the fact that similar values were not observed in Ottawa or Calgary. Rather, this value was created by the particular historical role played by UW and other organizations, who have purposefully affected how many actors throughout Waterloo understand the rules of the local field. The fact that this one type of habitus and view of entrepreneurship has been placed above all others through fundamentally local forces suggests the presence of a real local culture rather than a reflection of a non-local one.

This culture is far from comprehensive and not all entrepreneurs have experienced this culture in the same way. More than half of entrepreneurs interviewed displayed a habitus different from the field-based expectations of what an entrepreneur should be. This habitus, and the reaction of others within the local field to it, led actors with this habitus to choose very different patterns of practices than those with ambitious entrepreneurial habitus. Each group has very different views on the goals of entrepreneurship. This difference goes beyond a desire to create a company; as has been discussed, several satisfier entrepreneurs have created large firms and several ambitious entrepreneurs have either little revenue or, in one case, clearly stated that they have no plans to ever generate revenues. Rather, it reflects a deeper vision of what it means to be an entrepreneur.
Chapter 6
Economic Crisis and Cultural Change: The Evolution of Entrepreneurship in Ottawa, Ontario

1. Introduction

The entrepreneurial culture of the Ottawa region (also called the National Capital region, which is composed of the cities of Ottawa, Ontario, Gatineau, Quebec and surrounding suburban and rural areas) has changed significantly over the past five decades. This period saw the rise of a telecommunications cluster with substantial economic impact, the creation of an entrepreneurial environment so active it earned the city the label of ‘Silicon Valley North,’ the eventual disintegration of this economy in the wake of the collapsing telecommunications bubble in 2001 and the formation of a software economy focused on sustainable growth. These economic developments lead to changes in the local entrepreneurial culture, transforming a culture rooted in the postwar federal bureaucracy to one focused on relatively risky entrepreneurial development in the telecommunications industry and finally, to a culture that encourages entrepreneurs to find a balance between growth and risk. This final change is not a relapse of an entrepreneurial culture to an older bureaucratic culture, but rather represents an evolution based on an altered belief about what a successful entrepreneurial firm looked like. Instead of entrepreneurial success being predicated on quick growth followed by a profitable exit, success is now seen as the ability to build a stable firm capable of sustainable growth.

These cultural changes are best understood through a Bourdieuan perspective. As the local economic ‘rules of the game’ shifted in response to a series of external economic shocks, new types of practices made sense given actors’ understandings of how the local field had changed. Some of these practices were successful and were copied by others in the region while others failed and were ignored. The most successful new practices, such as the decision to adopt strategies balancing growth with risk and a new aversion to taking on formal investment, are approaching a state of doxa within the region. Practices that were marginalized in the past are now seen as common sense. When viewed through a Bourdieuan perspective it is clear that these changes were not a straightforward process but rather a complicated, contentious transition that is still unfolding.
This chapter investigates the evolution and reproduction of Ottawa’s entrepreneurial culture by examining how actors have reacted to changes within the field and the continuing tension between the region’s culture of technology entrepreneurship and federal bureaucracy. Section two provides a historical overview of Ottawa’s technology economy, from its origins in federal research labs to the emergence of a new community of software entrepreneurs. Section three discusses how the high rates of individuals pushed into entrepreneurship by the collapse of large firms at the beginning of this decade affected the region’s entrepreneurial culture. Section four examines two new sets of practices that emerged from the cultural changes over the past decade: aversion to risks and ‘Software-as-a-Service’ (SaaS) strategies. Section five examines changing practices of firm finance, in particular the new attitudes towards venture and angel capital. Section six discusses how the dynamic networking practices found within the entrepreneurial community reflect the ability of entrepreneurs to actively influence their local entrepreneurial culture, even in the face of economic shocks and institutional inertia. Finally, the chapter concludes by discussing the reflexive relationship between entrepreneurial practices, cultures and fields in Ottawa.

2. The Rise, Fall and Rebirth of Ottawa’s Entrepreneurial Economy

2.1. The Origins of Ottawa’s Technology Economy

Though Ottawa became Canada’s national capital in 1867, its economy did not move beyond public service and paper and pulp industries for more than a century (Andrew et al., 2011). True diversification began in the 1950s with the emergence of a local technology industry whose origins can be traced to the region’s National Research Council (NRC) laboratories. The NRC was established in the wake of the First World War to support research relevant to Canadian industrial and defense needs. The Council began to establish research labs in the 1930s to concentrate on particular areas of need, such as nuclear energy, medicine and most importantly, digital computers and communications (Eggleston, 1978). By the 1950s, these labs had spun off more than sixty high-tech companies in Ottawa, who became a critical part of Ottawa’s early telecommunications industry (Mallet, 2004).

Beyond seeding technology startups, the NRC played two other roles in the development of Ottawa’s telecommunications economy as well as its entrepreneurial culture. The first was
attracting skilled workers to Ottawa. As the NRC labs grew throughout the 1960s and 1970s, they attracted a labor pool of skilled scientists and engineers to the region, which local firms were able to draw on or who would leave the NRC to form their own startups. Second, the skilled labor pool found in both the NRC labs helped attract private R&D investment to the region. One of the most important investments was by Northern Electric, a Canadian telephone manufacturer who located their research labs in Ottawa to access the technical expertise in the region (Rens, 2001). By 1971, Northern Electric had merged its research operations with Bell Canada to create Bell Northern Research, (BNR), which could become one of the most important telecommunications and optics research sites in the world. These research-based firms continued to attract talented workers to Ottawa as well seed the economy with more technology firms. BNR and its subsidiaries would incubate and spin off more than sixty other companies between 1969 and 1985 (Bathelt, 1991). While the two local universities, the University of Ottawa and Carleton University, both had engineering programs, these were not large enough to produce the skilled labor pool these firms required; it was the NRC labs which helped develop a world class engineering labor force in Ottawa (Harrison et al., 2004).

The federal government played a critical role in supporting the development of Ottawa’s technology economy. Both direct government research subsidies as well as its need for consulting and support services provided local firms with a stable market as they developed their own commercial products (Mallet, 2004). Amongst the most direct interventions in the market was the formation of Microsystems International Limited (MIL) in 1969, a government-supported microchip manufacturer. While the firm would only exist for four years before succumbing to international price competition, it brought together two key figures in Ottawa’s economic history: Terry Matthews and Michael Cowpland. Matthews, a marketing manager at MIL and Cowpland, an engineer there, started Mitel in 1973 after leaving the declining MIL (Thomas, 1983). After an aborted attempt to resell electric lawnmowers in Canada, Mitel became an early mover the new field of digital signal processing and grew quickly before being acquired by British Telecom in 1985, six years after it went public. Both founders took their profits from this sale to start new businesses in Ottawa. Cowpland’s Corel Studios became one of Canada’s largest software firms and Matthews’s Newbridge Networks mirrored Mitel’s rapid growth; its acquisition by Alcatel in 2000 earned Matthews over a hundred million dollars (Mallet, 2004). While Mitel was Ottawa’s largest entrepreneurial success story, dozens of other local technology
firms also saw substantial growth during this period. The sheer amount of entrepreneurial activity during the 1970s and 1980s suggest a very supportive entrepreneurial culture that encouraged engineers and technologists to enter the growing market place for telecommunications products.

The success of these companies brought even more outside investment to the region. Northern Electric’s (renamed Northern Telecom in 1976 and reorganized as Nortel in 1995 to better compete in the global telecommunications hardware market) decision to locate its R&D activities in Ottawa had far-research implications for the evolution of Ottawa’s entrepreneurial environment. Taking advantage of the region’s expertise in digital technology, Nortel made a strategic shift in the 1970s away from analog telephone technology towards digital and optical communications (MacDonald, 2000). A series of technological breakthroughs made the company a global leader in telecommunications and networking technologies. At its peak, Nortel accounted for more than one-third of the total market capitalization of the Toronto Stock Exchange and employed more than 12,000 workers in Ottawa alone (Wahl, 2009). Nortel’s footprint in Ottawa, both in terms of its employment and R&D investment, would help anchor the local telecommunication cluster (Chamberlin and de la Mothe, 2003; Lucas et al., 2009). The success of flagship companies like Nortel, Cognos and JDS Fitel helped to support a growing entrepreneurial environment in Ottawa. By the 1990s there were more than 1100 technology companies in the region by, a substantial increase from the from 450 technology firms in the region a decade before (Doloreux, 2004; Madil et al., 2004).

2.2. Silicon Valley North

By the 1990s, the city’s fast growing technology firms and innovative public and private research labs had earned it the label ‘Silicon Valley North.’ While the lack of historical research on this period makes it difficult to speculate on the cultural changes that occurred during the buildup of Ottawa’s technology economy, several interviewees noted that throughout the 1990s it was common for technical workers to aspire to leave a stable career in a large organization to found a startup. As the former leader of a local economic development agency noted “...the rise of the telecommunications sector here [came] through the [federal] labs... These people ended up being very entrepreneurial. They started their own businesses.” (O107) Furthermore, the successes of these pioneering entrepreneurs encouraged others to follow in their path, with self-
made millionaires like Matthews and Cowpland “acting as role models in the community [and] contributing to the development of a solid entrepreneurial spirit.” (Corona et al., 2006 p. 110) These factors helped create an entrepreneurial culture that drove the creation of many growth-oriented firms that produced leading-edge telecommunications hardware and software. Three main institutional factors defined this entrepreneurial environment: (1) large organizations like Nortel, MIL, BNR and the NRC labs acting as talent magnets, (2) networks of angel investors and venture capitalists that emerged in the mid 1990s and (3) a local culture that promoted entrepreneurship amongst skilled technologists.

The successes of firms like Mitel in the 1970s and 1980s helped attract more investment capital to the region. Ottawa had only one venture capital firm before 1990, limiting local entrepreneurs’ options for obtaining the investments necessary for product research and development (Callahan and Charbonneau, 2004). This began to change in the early 1990s as more venture capital firms were attracted to Ottawa by the numbers of successful startups. In 1996 alone, five venture capital firms located in the region invested more than $90 million in forty-six local firms (Callahan and Charbonneau, 2004). The explosive growth of this period also created a population of angel investors with specialized knowledge about the telecommunications industry. A group of former BNR and Nortel executives formed the ‘Purple Angels’, an investment collective that invested in dozens of local startup firms. These angels were well connected with local entrepreneurs, customers and investors, making them critical nodes in the region’s entrepreneurial environment. Beyond this, many successful entrepreneurs such as Matthews, Denzil Doyle (the founder of Digital Equipment Corporation of Canada) and others acted as angels by investing in and advising younger firms. The presence of both angel investors and venture capitalists created an infrastructure for young firms to turn to for the funding necessary for the telecommunications industry’s long development cycles. Frequent liquidity events (either IPOs or acquisitions) helped financiers reinvest their profits back into other startups.

The successes of Ottawa’s technology entrepreneurs helped create a local culture supportive of technology entrepreneurship. This culture encouraged specific practices, such as leaving a stable firm to found or work at a startup or to take on outside capital in order to quickly
grow the firm. Mason et al. (2002) quote a local angel investor who commented on how this culture made it easier for him to encourage engineers at large firms to start their own firms:

These sort of stories — a young guy aged 26 who worked for Extreme Packet who is now a multi-millionaire and runs in a $195,000 Porsche — have become common place. It turns everyone's head... In the past I couldn't get anyone out of Nortel or Mitel to join my start-ups but now I can because they feel confident of getting $10 million within six months as we've got the thing started. (p. 271)

Such success stories seemed to announce to the region that the “game had changed,” and that it was possible to become rich by starting a telecommunications firm (Callahan and Charbonneau, 2004 p. 190). As one entrepreneur recalled, during this time “….I was constantly seeing people in Ottawa get very wealthy. Because I was familiar with this business area, I knew lots of people who were getting wealthy and I wanted to get wealthy too.” (W130)

Organizations like the Ottawa-Carleton Research Institute (OCRI) were established during this period to foster high-tech entrepreneurship and investment. OCRI, first formed in 1983 to help link research at local universities with local industrial needs, later evolved into a platform to help organize the region's telecommunications industry and promote local technology entrepreneurship. OCRI developed programs at this time designed to support high-growth entrepreneurship, for instance helping local entrepreneurs make connections with investors and customers from outside the region and working to attract global telecommunication companies to the region. While OCRI was an important program, there were many other entrepreneurship development programs in the region. O’Sullivan (2004) identified thirteen different programs in Ottawa designed to encourage entrepreneurship in different technology sectors. Some of these programs were administered by OCRI while others were run by independent groups like the Ottawa Manufactures Network. All of these programs benefited from financial and political support from the municipal, provincial and federal governments.

2.3. Decline of Ottawa’s Telecommunications Industry

The end of the telecommunications bubble in 2001 set in motion fundamental changes in Ottawa’s entrepreneurial culture. Many local technology firms profited from the growth of global telecommunications networks in the 1990s and took on substantial debt or outside investment to fund product development with the expectation that strong sales and an active
acquisition market would pay back the investment. The decline of the telecommunications market after 2001 meant that these firms lacked the revenues to support their debt load and it was no longer possible to make a profitable exit by selling the firm (Brouard et al., 2004). Nortel, the region’s dominant firm, found itself uniquely exposed to the precipitous decline in network equipment purchases. The loss of sales combined with strategic missteps by the firm’s leadership led to a decade of deterioration, which ended in the firm’s liquidation in 2010. Global employment at Nortel dropped from a peak of 94,000 to 37,000 between 2000 and 2002, with more than 10,000 layoffs in Ottawa alone (Brouard et al, 2004; Spigel, 2011).

While this period of crisis lead to heavy job losses amongst technology workers, there is little evidence it caused a mass emigration of skilled workers in search of employment. To the contrary, between 2000 and 2004, when Nortel shed 61% of its global labour force, there was only a small drop in the number of technology workers in the city (see Figure 6.1). The continued increase in the number of technology firms despite the economic downturn is not surprising given the socially embedded nature of entrepreneurship. Most of the region’s technical labour force first moved to the area to work at large organizations like Nortel or the NRC labs. Many of these workers became enamoured of the city’s high quality of living and developed deep attachments within the community. After losing their jobs these workers faced the prospect of leaving the region in search of a new job, which would require uprooting their families and abandoning their local networks of friends and colleagues. To avoid this, many laid off workers turned to self-employment as a way to remain in Ottawa. This lead to the proliferation of small firms created by telecommunications engineers who wanted to support their lifestyles in Ottawa through consulting work with private clients or the federal government.
The economic downturn also damaged the region’s investment infrastructure. Almost all venture capital firms left in the wake of the collapsing telecommunications market. There is only one traditional venture capital firm left in Ottawa, which no longer makes new investments. The pullout of venture capital from the region also hurt the angel community. Angels who had invested in companies that subsequently received venture capital lost money when the venture capitalists engineered quick exits from their investments. Calahan and Charbonneau (2004) argue that because of these actions “most [angels] have left the scene permanently and the fragile angel networks that had been built up over the preceding 20 years have been significantly weakened” (p. 194) Even ten years after the crash of the telecommunications market, Ottawa-based angels are still recovering. In the words of one local angel investor:

The angel community in town, the word I could use to describe it is tired. There’s a lot of angels that made lots of investments over the last 10 or 15 years, not a lot of it is paid back yet...So there’s a lot of people waiting on the sidelines now saying ‘I’ve put a lot of money into this and I’m going to wait until I get some return before I jump back into the pool.’ (O125)
2.4. Ottawa’s Current Entrepreneurial Environment

Ottawa contemporary entrepreneurial environment is marked by the development of a new entrepreneurial culture marked by an unwillingness to take on the types of risks were seen as the cause of the decline of many of the entrepreneurial startups over the past decade. The new focus for most new technology entrepreneurs is the software sector, either in designing new products for social media or gaming markets or in serving as contract programmers for public or private clients. This is both a reaction to the increasing difficulty of entering the telecommunications industry compared to the relative ease of designing software products as well the changing cultural attitudes towards entrepreneurship in Ottawa. Since the decline of Ottawa’s telecommunications industry, entrepreneurship is no longer primarily viewed as a path to wealth, but rather a way to create stable income. Even amongst a new generation of technology entrepreneurs who were not directly affected by the collapse of the telecommunications bubble, the goal is not to create a firm that can be sold quickly for a large profit but instead to build one that generates a constant revenue stream to support future activities. As will be argued throughout this chapter, interviews with entrepreneurs and economic development officials suggest that a profound change has occurred in the goals and practices of entrepreneurs, which has contributed to a shift in the region’s entrepreneurial culture.

The continued influence of both the federal government and large corporations on Ottawa’s entrepreneurial culture cannot be overlooked. As the importance of the telecommunication industry in Ottawa shrunk, the importance of IT consulting to the federal government increased. Between 2005 and 2010, the government increased its spending on IT consulting from $220 million to nearly 600 million (MacDonald, 2011). While there is no definitive evidence about how much of this activity takes place in Ottawa, of the 25 open federal contracts for IT services listed at Merx (an online clearinghouse for all Canadian public contracts) on September 6th, 2012, 19 were for delivery in the National Capital Region. The size of the federal government’s outsourcing gives it significant influence over the region’s entrepreneurial and business culture. Interviews with entrepreneurs suggest that they feel that the federal government creates a culture of risk aversion in Ottawa’s business community. One entrepreneur who decided to forgo work with the government warned that: “…anybody who does business with government has to recognize that they could wakeup on any given Monday
and discover that there’s an audit relating to their industry [or] relating to their contract.” (O116) Another entrepreneur serving the federal government argued that: “Ottawa tends to be a little conservative... Budgets tend to be a big thing. We’re always talking about money on projects here in Ottawa.” (O138)

Additionally, the corporate cultures of large firms like Nortel have a strong influence in the community. Much like the federal government, these firms attracted many skilled workers to the region who moved to smaller cities after corporate downsizing. Entrepreneurs reported experiencing frequent cultural conflicts with employees coming from large organizations. As one entrepreneur described: “the problem with the city of Ottawa is that there was so much engineering talent at Nortel that when all that stuff went belly up, all those engineers went out into the engineering pool of the city and they found themselves at lots of startup... We don’t have meetings upon meetings to talk about things [here]. We have meetings to present things that we’ve developed.” (O119) This suggests the habitus of many of these workers were formed within these large organizations, which has normalized practices common within large, hierarchical organizations but which are in conflict with the unspoken rules and norms of entrepreneurial firms.

There is a tension within Ottawa’s local field between the experimentation of the new generation of software entrepreneurs escaping the older telecommunications culture, the power of the federal culture and the lingering influence of the region’s corporate culture. Though some entrepreneurs may try to avoid some of these influences, they remain affected by them because all these sources have contributed to Ottawa’s entrepreneurial culture. This chapter argues that Ottawa’s entrepreneurial culture is in a state of change, with actors experimenting with new types of practices based on their habitus-informed understanding of the local field. As entrepreneurs choose practices that they think make the most sense given their present context, they are helping to create the new field and a new culture. Entrepreneurs’ practices reflect their responses to a rapidly changing field and in some cases those practices may influence the course of future entrepreneurship in the region.

The attributes of Ottawa’s local field have been shaped by its long evolution from a center of government research in the 1960s and 1970s to the center of Canadian
telecommunications entrepreneurship in the 1980s and 1990s to its present state today. These were not purely economic changes but rather involved shifts in how Ottawa’s community understood the purpose and goals of entrepreneurship. As entrepreneurs reacted to the economic shocks of the early 2000s, the primary goals of technology entrepreneurship evolved from building fast-growing, investor-backed firms to slower growing firms capable of supporting the entrepreneurs’ future endeavors. While the symbolic capital of being a successful entrepreneur is still important, entrepreneurs are now less willing to accept the increased risks this kind of entrepreneurship requires. This new view developed as entrepreneurs observed the consequences of the collapse of the telecommunications market on fast-growing startups, the decline of the local investment environment and loss of anchor firms such as Nortel. This led to a reappraisal of the purpose of entrepreneurship which has since become part of the local field. However, many entrepreneurs believe that local organizations such as OCRI and university programs have yet to react to these changes and still try to promote a form of entrepreneurship that no longer makes sense in the contemporary local field.

3. Firm Formation

The number of laid off workers forced into entrepreneurship by outside forces has contributed to significant changes in the region’s entrepreneurial culture. Significantly more entrepreneurs were forced into entrepreneurship in Ottawa (37%) than in either Waterloo (4%) or Calgary (12%; see Table 1).

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<th>Ottawa</th>
<th>Waterloo</th>
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<td>Pushed into Entrepreneurship</td>
<td>10</td>
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<td>Not Pushed into Entrepreneurship (pull or trip)</td>
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Note: t-score of tests between Ottawa and Waterloo or Calgary in parentheses
* significant at p < .1 ** significant at p < .05, *** significant at p < .01
Source: Interviews

Of the ten entrepreneurs pushed into entrepreneurship in Ottawa, five cited layoffs (two from Nortel) as the major reason for starting a firm and five were pushed into entrepreneurship
for other reasons, such as the inability to get work in their preferred field. Several entrepreneurs in this group had considered entrepreneurship before being laid off, but decided they were more comfortable working at an existing firm. The founder of a gaming firm noted that: “I wouldn’t say that [entrepreneurship] was a dream. It was: ‘if this job thing doesn’t work out, I’ll start my own firm.’” (O103) Another noted that starting his own firm was “one of those fluke situations… I got downsized through a buyout of a firm I was with. I had a partner at the time and we decided to continue some of the smaller contracts that we had at the time.” (O106) Furthermore, several in this group saw entrepreneurship as an alternative to leaving Ottawa. With few firms hiring after the economic decline, self-employment became one of the few ways of replacing their previous jobs. In the words of a former Nortel engineer: “I was already living here, had established a family, and so a lot of the huge expenses when you’re my age to try and get established were really somewhat behind us anyway.” (O108) According to a local economic development official, “many [laid off engineers] were later in their careers, Ottawa was home and [they] stayed and raised families here...It’s a very good community in that respect and so a lot of people would want to stay here.” (O101)

Given these constraints, many in Ottawa saw entrepreneurship as a way to replace lost income and stay in the region. This perception led to the proliferation of small startups that focused on consulting with the government or local businesses, since these types of firms required little startup capital and could quickly generate revenues. However, these firms have limited growth potential. The leader of an entrepreneurship training program described the changes in the entrepreneurs he saw over the past decade:

Most of it is the lifestyle, the realization that for me to make $150,000 a year the job that I want isn’t here in Ottawa anymore, I don’t want to leave Ottawa because it’s a wonderful place to live in and my wife doesn’t want to leave Ottawa and my kids don’t want to leave Ottawa and so I’ve got to create income for myself and I want to do it using my entrepreneurial skills. (O135)

Interviews with respondents pushed into entrepreneurship suggest that their decision to focus on building stable, low-growth firms is not only an outcome of the changing economic environment for telecommunications firms but also their prior dispositions towards entrepreneurship. For workers without preexisting entrepreneurial dispositions, self-employment was seen as a way to wait out a poor job market; as one entrepreneur explained: “…I thought I
would do this until I found a real job. I thought this was something [to do] because the jobs were few and far between.” (O138) Self-employment was never fully normalized amongst the population of technologists used to working in large firms. The increase in the number of firms, followed by a gradual reduction shown in Figure 1 suggests that many small firms disappeared as the founders slowly reentered Ottawa’s traditional labor market.

The proliferation of small consulting firms in the wake of the collapsing telecommunications economy does not necessarily represent a cultural shift in the region’s entrepreneurial landscape. The number of entrepreneurs (10 of 27) who were pulled into entrepreneurship by a preexisting desire to start their own firm cannot be overlooked. However, even these entrepreneurs were affected by the changing ways in which entrepreneurship was understood in Ottawa. Unlike in Waterloo, where many entrepreneurs noted a desire to gain control over their economic destinies and not have to work for someone else, only two entrepreneurs in Ottawa raised this issue. Nor did many entrepreneurs in Ottawa express a desire to become wealthy through entrepreneurship, as many in Calgary did. Instead, the goal of most Ottawa entrepreneurs was to build a prosperous firm and overcome the many challenges of running a sustainable business. For instance, one serial entrepreneur explained that he was the “…kind of an entrepreneur that enjoys taking something that doesn’t exist and making it into a firm,” (O119) while another noted that he had “…always wondered how difficult [entrepreneurship] was… I wanted to take on the challenge of seeing if I could do it.” (O130) While their reasons for starting their companies differ from those pushed into entrepreneurship, underlying the startup decision of both groups was a desire to build something sustainable, either because they wanted the stability of long-term self-employment or because building a sustainable, growing firm demonstrated to others in the community that they were a successful entrepreneur. The emerging pursuit of sustainable business models amongst Ottawa’s new generation of entrepreneurs will be explored in the following section.

4. Firm Growth and Change

4.1. New Perspectives on Growth

The practices employed by entrepreneurs in Ottawa to grow their firms have changed in the past decade, reflecting the structural shifts in the region’s field over this period. While
Ottawa has always had a mix of lifestyle and growth-oriented entrepreneurs, the local economic and cultural conditions of the 1990s increased the social and economic incentives to create advanced, fast growing firms. The easy access to startup capital, plentiful local examples of successful entrepreneurs and a supportive entrepreneurial milieu helped encourage engineers and designers to leave their stable jobs at large organizations to create their own startups. A former OCRI director noted that at this time “…people were even leaving Nortel and saying: ‘I can even do it better, I can make a better mousetrap,’ because it was just going through the roof. We had a huge explosion then in terms of startup companies coming out of the blocks.” (O107) During this period, the goal of growth-oriented entrepreneurs was to build firms that would quickly reach a point where they could either go public or be acquired for millions of dollars. In the words of one entrepreneur who started a firm at this time: “we were gung-ho, the VCs were gung-ho. They [the venture capitalists] said ‘grow the business, grow the business, grow the business.’ We were like ‘yeah, let’s do it, let’s do it.’” The most celebrated and successful entrepreneurs at this time were those who could develop a cutting-edge technology, build a fast-growing firm and quickly profit from it by being acquired by a larger firm or by releasing an IPO.

The collapse of the telecommunications bubble led to a change in how people defined entrepreneurial success. Amongst those with very clear entrepreneurial habitus, the goals of starting and running a firm shifted in response to the collapse of the telecommunications market. As discussed above, one of the most prominent outcomes of this shift was the proliferation of small technology consulting firms with little opportunity for growth. The director of an entrepreneurship training program complained that newer entrepreneurs were only interested in building small firms that would support their outside lifestyles:

In 2002 you had the guys who were going to grow organically and the guys who were going to go VC and so they’ll make money through the VC sale. It was a four or five year play, make lots of money and go retire to the Bahamas...In 2009 I don’t see any of those guys. I haven’t seen one guy. (O135)

This quote suggests that many economic development officials no longer see Ottawa as having a large population of entrepreneurs dedicated to building fast growing companies. However, the present situation is not so simple: many entrepreneurs in Ottawa still want to build successful, growth-oriented firms. However, instead of basing their practices around the old definition of success (an acquisition or IPO), these entrepreneurs are now more interested in
creating a firm that can achieve high levels of growth without dependence on outside investors. This represents a cultural shift in response to the new, post-telecommunications collapse, local field.

Of the 15 growth-oriented entrepreneurs who discussed their exit strategies in Ottawa, only three (20%) were expecting to exit their startup through an acquisition. One of these individuals was a serial entrepreneur who had previously taken a firm public and had designed his present firm from the start for acquisition and another was a younger entrepreneur who started the firm at the behest of a prominent local angel investor who helped structure the firm for a future acquisition. Instead, the majority of growth-oriented entrepreneurs now see success as being able to build a firm capable of sustainable growth over the long term rather than one which will be eventually purchased. The most common desire for this new kind of growth-oriented entrepreneur was encapsulated by a serial entrepreneur who said: “I think the greatest success would be if we were independent, but big and successful...If we’re profitable and driving ourselves there’s no need to fish out a quick exit.” (O114) This new definition of success within the local field has led to the emergence of several new types of practices which balance risk management and growth. These practices would have been seen as illegitimate in the older incarnation of the local field but now make sense given new attitudes towards entrepreneurship in the community.

4.2. Risk Aversion

The changes that have occurred in the Ottawa’s field and culture over the past decade, along with lingering memories of the collapsing telecommunication industry have fostered an aversion to risk among both lifestyle and growth-oriented entrepreneurs. This is not a fear of risk, but rather a realization that risky practices Risky practices are those that introduce potential uncertainty when attempting to grow the firm or enter new markets, such as by developing a new product, taking on outside investment or hiring new employees. Many entrepreneurs expressed a desire to avoid undue risks because they feared that overextending themselves could jeopardize their firm’s survival. As one entrepreneur put it, “Some of the successful entrepreneurs I’ve seen in Ottawa, I think some of them do have one idea that they try and execute on it...Those are riskier. I saw one of those fail recently. I guess we’re not doing that….I am not that comfortable. I am risk adverse.” (O113) Another entrepreneur expressed a reluctance to grow the company to
a larger size than he was comfortable managing, saying: “we don’t need to be a bigger company. We need to manage the company at the size that we have it and it’s a comfortable size. I don’t want 50 or 100 employees. That’s too much.” (O103)

This risk aversion is not necessarily anti-growth, but rather reflects the social fear of failure found in the local field. A prominent entrepreneur complained that in Ottawa “[there is] the perception that if you failed once, you’ll fail again.” (O118) Given the stability of federal employment, with its strong job protections and pension plan, it is difficult for entrepreneurs to rationalize the risk of practices such as mortgaging their house or taking on unsecured credit card debt to fund a business when many of their friends and neighbors enjoy the relatively high pay and security of government employment or contracting. One long-term entrepreneur believes that in the current economy “…if someone is given a choice between a startup and a government position, they’ll take the government position in a heartbeat even though it’s not necessarily going to be as challenging for them because everyone is looking for stability now.” (O118) That is, the monetary and social rewards of entrepreneurial risk taking are not highly valued within Ottawa’s current local field, while the costs of failure are still very acute. These cultural outlooks discourage risky practices observed in other communities, such as structuring the firm for a profitable acquisition rather than long-term stability.

Entrepreneurs in Ottawa made frequent use of runway techniques, allowing them to reduce their risks during their initial development by acting as consultants as they designed their products and studied the market. The federal government is a rich source of consulting work, and many entrepreneurs acted as subcontractors to other firms with standing contracts. An entrepreneur who now develops graphics software discussed how initially “We’ve been doing that contract work….we started at a company that was [doing] Ottawa-based federal contracting.” (O113) Entrepreneurs are able to rely on consulting contracts with the government to provide some level of revenues to either help them during the startup process or depend on during an economic downturn. Another discussed how he reduced his risk by acting as a contractor with his former employer: “I left Nortel and immediately got consulting work at Nortel, so revenue starting flowing right away.” (O124) While in Waterloo many entrepreneurs avoided such techniques because they distracted from product development, entrepreneurs in Ottawa embraced them because they helped reduce their risks of failure during times of
vulnerability. This is very different from the experience of entrepreneurs in the late 1990s, where as one venture capitalist recalled, “15 year ago you could syndicate a venture capital round and raise between $5 and $20 million over night. It wasn’t a complex thing…. [now] you have to build your businesses based on generating cash flow, making it profitable as soon as possible.” (O121)

The aversion to risk does not mean that entrepreneurs are not interested in growth: 15 of 29 (51%) Ottawa entrepreneurs can be classified as growth-oriented based on their firms’ growth history and projections: a higher rate than in Waterloo (47%), a city whose culture promotes this kind of entrepreneurship (though less than Calgary’s 75%, which is driven by a desire to accumulate economic capital). Nearly all of these entrepreneurs in Ottawa adopted practices that allowed growth while minimizing the risks to both their firms and themselves. Entrepreneurs cited both selling to the government as a way to minimize risk (because they believe that it is a stable client that will always pay) as well as moving away from government sales (because of the perceived costs of adhering to procurement regulations and the constant threat of compliance audits). The particular risk-mitigation practices an entrepreneur employs will depend on his or her unique habitus and situation, but the risk-adverse nature of the local field will affect entrepreneurs’ strategies as they decide if and how to start, manage and grow their firms.

4.3. Use of Software-as-a-Service Strategies

The use of SaaS (Software-as-a-Service) strategies is perhaps the clearest example of how entrepreneurs have employed new practices in response to changing cultural notions of entrepreneurial success and risk within the local field as well as the new economic realities of Ottawa’s economy. SaaS is a business model where customers ‘rent’ software, which is stored on the producer’s servers and accessed through a web interface, instead of buying it outright like traditional software. This produces a steady revenue stream of monthly payments instead of the peaks and troughs associated with traditional software’s long sales cycles. SaaS strategies are highly scalable and allow firms to grow without making large investments in new IT infrastructure. Of the 18 software firms in Ottawa, nine (50%) employed SaaS strategies, compared to six of 20 (30%) software firms in Calgary and two of eight (25%) software firms in Waterloo. While this is not a statistically significant difference (\(\chi^2 = 2.22, p = .32\)), its popularity in Ottawa, especially amongst growth-oriented entrepreneurs, makes it an important practice.
within the community. This use of SaaS is not necessarily due to the logic of the technique itself, but is rather the result of decisions by individual entrepreneurs about how to best to match their own goals and desires for their firms with their beliefs about what practices will be successful in the city’s entrepreneurial field.

The low initial capital requirements of SaaS techniques made them look attractive in the wake of the collapse of Ottawa’s investment environment. Before this, as Callahan and Charbonneau (2004) argue, many growth-oriented entrepreneurs in Ottawa depended on angel and venture capital to support them while they developed new products. With this investment no longer available, entrepreneurs reported turning to SaaS techniques in order to reduce startup costs to the point where they could rely on their own savings or small investments from family or friends to support their initial product development and quickly bring in revenue. Four of the nine entrepreneurs who used SaaS techniques adopted them in response to their inability to find financing. For example, one firm shifted its target market from enterprise-level corporate communication software to an SaaS business intelligence platform because “…we were going through x number of years without really making any money. So we kind of bootstrapped to buy a way to circle back; there was no investor at the time, no angel or institutional investor at the time was willing to back a new software startup firm with zero revenues.” (O120) In at least two other cases, entrepreneurs adopted SaaS strategies preemptively because they believed that it would be impossible for them to get financing in Ottawa.

While SaaS strategies might have originated in a need to compensate for the lack of investments, the rise of the technique’s popularity in Ottawa is also linked with changing definitions of entrepreneurial success. For a new generation of entrepreneurs, success was no longer based on the price they could sell their firm for, but rather their ability to create a firm that could simultaneously develop technically advanced products and build a stable revenue stream. This new view was emerging around the same time the first SaaS firms in the region were starting and their success of these firms has solidified the new definition of success. SaaS entrepreneurs indicated they were interested in using their recurring revenues either to continue to grow their companies or to support another endeavour when the challenge of running a startup faded. One entrepreneur had left his previous SaaS startup after it reached a point of sustainability and used its recurring revenues to fund his new firm, thus allowing him to
experience the thrill of running a startup again. For him, “As far as [my company] goes, it’s really one that I want to ride to a massive success and just get every possible experience of that process out of the way, then move on to something next. (O119) Another entrepreneur planned to use his firm’s continued sales to pay for his passion project: “I want to do some screenwriting and I’d love to direct a movie – that would be my ultimate goal. So what I want to do is that in three to five years not be actively running the firm but having somebody else running it and I would be probably owning the majority of it but not actively involved.” (O126)

The growth of SaaS practices are a reflection of how entrepreneurs have reacted to the city’s economic and cultural changes over the past decade. Entrepreneurs chose the strategy because it helps them reduce their upfront investments and risks while preserving opportunities for growth. While SaaS strategies make a large buyout (the previous version of entrepreneurial success in Ottawa) unlikely, this is no longer a major concern within the field. The external shock of the collapsing telecommunications economy changed Ottawa’s entrepreneurial field, transforming existing rules and shifting the traditional definitions of entrepreneurial success. Entrepreneurs’ reaction to such changes has led to the development of a new culture in the region, a culture that rewards entrepreneurs who can balance the conflicting demands of growing a firm with minimizing the risks of growth. This culture encouraged the adoption of practices designed to minimize risk across the entire spectrum of technology entrepreneurship in Ottawa, from lifestyle entrepreneurs with little desire for growth to ambitious entrepreneurs looking to create a large, technologically advanced firm. As some of these new practices helped early adopters meet new understandings of what entrepreneurial success looked like, they were adopted by others, helping to normalize these practices within the field, reproducing and cementing the cultural changes within the region.

5. Financing

The sharp decline of venture capital and angel investment from Ottawa after the telecommunications collapse has changed the course of entrepreneurship in the community—it altered the region’s economic structure as well as that of the local field itself. This restructuring substantially changed how entrepreneurs thought about the role of outside capital. The strategies they have employed, such as the transition to SaaS models and the use of investments from friends and family, reflect a process that can be interpreted as a habitus-informed
experimentation as entrepreneurs try to make sense of the changes that have occurred within the field over the past decade.

Five of 29 (17%) firms in Ottawa received venture capital investments and six (20%) received angel investments, rates not significantly different from those in Waterloo or Calgary (8% and 30% of entrepreneurs in Waterloo and 11% and 30% in Calgary had venture capital or angel investments, respectively). Four of the five firms in Ottawa that received venture capital obtained it before the telecommunications crash. As discussed earlier, the period between the early 1990s and 2001 represented the height of venture and angel investment in Ottawa. At this time, getting venture capital investments was generally seen as an indicator of entrepreneurial success, signalling that the entrepreneur had built a firm capable of participating in competitive international markets. One entrepreneur who experienced this phase of Ottawa’s economy said that at this time “the CEO starts mistaking venture capital for success.” (O120) Throughout this period, the symbolic capital of receiving institutional investment seems to have been higher than for growth based on stable revenues. This encouraged entrepreneurs to structure their firms around obtaining venture capital or angel investment.

The breakdown of the region’s investment environment appears to have changed the symbolic value attached to venture capital in the local field. This was driven by entrepreneurs’ observation of the damage done to firms that received venture capital over the past decade. As one entrepreneur recalled: “…around 2005 or 2006 you started to realize that anybody who had actually taken any capital at the time either got thrown out of the firm simply because that’s the way [of] venture capital.” (O104) Others saw that the founders of firms who took on venture capital rarely were able to maintain control of the firm. An entrepreneur who secured substantial venture capital in the 1990s now has a dim view of venture capital due the loss of power that he both experienced personally and saw happen to other local entrepreneurs:

When you take venture money the statistics are fairly clear – first of all the likelihood of any of the founders remaining intact to the liquidity event is fairly low…I learned a lot about the startup cycle and the selling cycle and all the rest of it and [for my current firm] I’m going to do it without any venture money. (O118)

The experience of seeing many prominent local startups damaged by the quick pullout of venture capital discouraged entrepreneurs from taking in venture capital for their future
endeavors, lowing the status of this kind of investment within the field. While entrepreneurs’ perspectives about angel investment were less hostile, the difficulty of obtaining it has similarly reduced its social importance. The importance of angel investment has also been reduced because the angels’ expertise in the telecommunications market is less helpful for entrepreneurs in the software industry. As one entrepreneur who is working towards transitioning his firm to the games industry, “I’ve been attending venture capital events to meet VCs and Angels who understand our space. It’s a little difficult in Ottawa because it’s a telecom city and we do games — online games — and for the most part they don’t get it.” (O136)

The interviews suggest that growth-oriented entrepreneurs who in the past would have viewed angel or venture capital as a key part of their growth strategy are now choosing practices designed to avoid this kind of investment. These practices include relying on runway techniques or SaaS strategies that allow the firm to grow organically without the need for investment capital. One investor observed that: “people’s expectations are getting smaller and smaller. Now most people are trying to build software companies that they can build on a shoestring.” (O125) The change from strategies that depend on investment to catalyze fast growth and exits to ones that depend on internal revenues and sustainable growth suggest an evolution in both Ottawa’s field as well as the habitus of growth-oriented entrepreneurs. This shift is not necessarily driven by the lack of available capital but, as entrepreneurs’ changing views of venture capital show, is rather related to new perspectives on the role of such capital in the entrepreneurship process. The economic crises of the past decade have led to fundamental shifts in the habitus of growth-oriented entrepreneurs, which in turn has influenced what practices and strategies make sense for them when they want to grow their firms. As new types of successful practices emerged, these were observed and copied by other local entrepreneurs, inducing changes in Ottawa’s entrepreneurial field.

Many entrepreneurs turned to friends and family capital as a way to replace angel and venture capital. The rates of friends and family capital in Ottawa are not significantly higher in Ottawa than elsewhere: 11 of 28 (33%) of Ottawa entrepreneurs received this kind of capital, compared to 25% in Calgary and 34% in Waterloo. However, unlike in the other two cities, all this informal capital in Ottawa came in the form of investments rather than loans. Both the entrepreneurs and the investors were aware of the risk that these investments represented and
most of the entrepreneurs specifically targeted family and friends who they know could afford such a risk. As one entrepreneur said: “family and friends are not your young friends and family, they’re older friends and family who do have some assets who also see this as a benefit to them.” (O110) The use of friends and family capital suggests that firms still require outside investment, but entrepreneurs preferred to take on the social risk of losing their family and friends’ investment rather than attempt to negotiate the increasingly difficult process of getting angel or venture capital, with the attendant dangers that these types of investments bring. As one entrepreneur suggested, “The bankers ask for everything – your house, your car, almost your kids and I don’t like that concept at all. I like the concept of taking risk but I don’t like this kind of rapport of force where you’re that big and they’re 100 times bigger. This translates in all of the relationships that you have with either venture capitalists or banks. So I never liked this idea.” (O111)

6. Networking

The majority of respondents saw OCRI, the region’s main economic development agency, as an ineffective platform for supporting networking between entrepreneurs.⁵ Of the 26 entrepreneurs who discussed their impressions of OCRI, 20 (77%) did not believe the organization was useful. Such views were very common amongst those who became entrepreneurs after long careers in the region’s large technology firms. Because these entrepreneurs are primarily consultants, they must constantly network to find new local clients. However, since the habitus of many small entrepreneurs appear to have developed in a corporate environment where intensive networking was not necessary, few said that they wanted to expand the time and energy that successful networking requires. A former Nortel engineer who became an entrepreneur admitted: “networking is one of those things, some people are really gifted at networking and meeting people and chatting and that’s not really been my strength.” (O108) While OCRI and other organizations set up programs to teach networking and other entrepreneurial skills to laid off technology workers in the wake of the regions’ economic downturn, skills like networking require a habitus that is predisposed to the demands of constantly searching for new clients and opportunities that effective networking necessitates.

⁵ In early 2012 OCRI was renamed Invest Ottawa as part of a larger reorganization scheme. At this time it is unclear what effect this reorganization will have on the organization’s entrepreneurship programs.
In addition to these complaints about OCRI’s programs, entrepreneurs, investors and other economic development officials felt that OCRI has failed to adapt to the decline of the telecommunications industry and has yet to engage with the region’s new software economy. To an entrepreneur who designs mobile applications, OCRI is “…an organization that has done this area a true disservice [because it believes…] chips and wires and cables were going to come back.” (O116) Speaking of the multiple government-sponsored entrepreneurship programs in Ottawa, another software entrepreneur felt that “…the majority of the associations in the city were built around the telecommunications boom. Which really says very little for software startups, especially small ones like us.” (O119) The political importance of the telecommunications industry to the region made it difficult for a quasi-public organization like OCRI to shift its focus to newer industries like software development and social media.

The perceived deficiencies of OCRI have led technology entrepreneur to create alternative organizations to support networking and learning within their particular industries. Even within the limited set of interviews conducted for this study, five interviewees reported created their own entrepreneurial support organizations. These organizations ranged from incorporated non-profits to bar nights for developers. For instance, a local venture capitalist helped found ‘The Ottawa Network,’ a group designed to help entrepreneurs network, which one entrepreneur saw as better than OCRI because “[t]he problem with OCRI is that it’s run by the government and you’ll have some bureaucrat, whereas ‘The Ottawa Network’ is run by successful entrepreneurs.” (O113) An entrepreneur in the social media industry started an informal organization called ‘Third Tuesday’ where social media workers meet once a month to hear a talk by an expert in the field and discuss new developments in the market. This entrepreneur saw the usefulness of informal entrepreneurial organizations in Toronto and decided to establish a similar organization here.

The attempts by entrepreneurs to create their own communities demonstrate their desire to create organizations more in line with their understanding of the entrepreneurial field; that is, organizations that reflected what they think an entrepreneurial region should look like. The entrepreneurs who have started these new organizations have observed or at least read about, the dense network of entrepreneurial organizations and institutions in places like Toronto or Silicon Valley and wanted to replicate that model in Ottawa. Finding that existing organizations like
OCRI did not meet their expectations, they chose proactively to develop the entrepreneurial environment that they wanted. It is too early to tell what role that these organizations will have on the region’s entrepreneurial field, but it is already possible to observe the beginnings of SaaS clustering in the downtown Byward Market neighborhood (as opposed to suburban Kanata, the former center of the telecommunications industry) that is enabled by the networking and knowledge sharing occurring in these new informal entrepreneurial organizations.

7. Conclusion

Ottawa’s experience over the past decade demonstrates the need for a dynamic perspective when studying entrepreneurial fields and cultures. Ottawa’s entrepreneurial culture did not smoothly change from a high-growth culture rooted in the telecommunications industry to its present risk-adverse culture underlying the new software industry. The changes to its culture and environment were neither quick nor uncontested. Rather, they are best understood by examining how alterations to the local field allowed new types of practices to be successful, which led the region’s entrepreneurial actors to readjust their habitus. This in turn affected how the vast majority of these actors understood what types of practices made sense in the new economic and social context of technology entrepreneurship in Ottawa. It was these new perspectives, rather than the shocks that preceded them, that were responsible for the developments in Ottawa’s entrepreneurial culture.

The new practices that developed in the region, from an aversion to venture capital to the widespread adoption of risk-adverse strategies, were not necessarily outcomes of an economic shock. Rather, they emerged through a period of experimentation and observation as entrepreneurs tried to find which practices made the most sense given their understandings of the changes that had occurred within the field. The decline of many of the region’s largest firms, the disappearance of venture capitalists and of angel investors as well as the proliferation of small consulting firms founded by laid-off telecommunications technologists created very real changes in the local field. These changes created a space for strategic experimentation where entrepreneurs could try out the practices that they thought would work in this new and unknown situation. Other actors observed the successful practices and copied them, further cementing these practices within the local field, As these practices became common, ‘entrepreneurs’ habitus
likely shifted in response, generating a new understanding of the rules of the local field, which in turn made the new types of practices they were observing seem reasonable.

These change have redefined entrepreneurial success in the region. Where once entrepreneurs tried to attract significant amounts of venture capital to build a firm that would quickly be acquired or go public, a new generation of growth-oriented entrepreneurs are more interested in building an innovative firm that can generate a stable foundation of recurring revenues that can be used as a platform for other endeavors. This redefinition in entrepreneurial success underlies the cultural change found in Ottawa. The belief that a successful entrepreneur is one who builds a sustainable firm rather than one that is quickly sold off allowed the use of important new practices like SaaS strategies and stable, organic growth. This belief enabled the development of a new software industry that thrived in an economic environment that could not support capital-intensive telecommunications startups.

By tracing the relationship between field, habitus and practice, it becomes clear that Ottawa’s changing culture is not the result of Ottawa’s economic history. Instead, the new culture developed organically out of the specific choices particular entrepreneurs employed in response to a chaotic period in which the new rules of the field were unclear. Through their habitus, some entrepreneurs experimented with new ideas and strategies in order to save existing firms or start new ones. They selected these practices based on their immediate needs, desires and beliefs about the field. It was those practices that helped bring about the cultural changes discussed in this chapter. Thus, placing the cultural changes within a Bourdieuan framework provides a much deeper appreciation for the reciprocal links between a regional culture and the entrepreneurial practices found there.
Chapter 7
Economic Capital and Entrepreneurial Outlooks: Technology Entrepreneurship in Calgary, Alberta

1. Introduction

Calgary, the largest city in Alberta with more than 1 million residents, is in the midst of one of Canada’s largest sustained entrepreneurial booms. With nearly 12% of its labour force self-employed, Calgary’s entrepreneurship rate is second only to Vancouver and the city was ranked highest in a recent study of Canadian technology entrepreneurship (Statistics Canada, 2006; Pennington, 2009). This productive entrepreneurial economy is a result of the oil and gas industry, the region’s dominant economic force. The industry accounts for 23% of the region’s GDP; more than retail, public service or construction (Conference Board of Canada, 2012). Technology entrepreneurship in Calgary is largely oriented towards serving this industry. Startup firms seek out and fill underserved niches in the oil and gas industry, ranging from software platforms for geophysical analysis to resource management tools for the province’s oil fields and natural gas wells.

As in Waterloo, researchers have generally agreed that Calgary’s entrepreneurial strength is related to a culture deeply rooted in its history, especially its history of oil and gas production (House, 1980; Miller, 2012). This history has helped to produce a unique local field that has made the social and economic practices of Calgary’s entrepreneurs almost unrecognizable from those observed in Waterloo or Ottawa. As this chapter argues, interviews throughout the region suggest that the symbolic capital of starting and running a successful business has little value in Calgary; instead, economic capital is perceived as the most valuable capital in the field. The high value of economic capital influences entrepreneurial practices throughout a firm’s lifecycle, from the entrepreneurs’ decisions to start a firm to their decision to potentially exit the company and their plans for subsequent entrepreneurship. Practices that would be seen as illegitimate elsewhere, such as entrepreneurs having little attachment to their firm, are found to be commonplace in Calgary.

Calgary’s local entrepreneurial field appears to be heavily influenced by the cultural norms of the oil and gas industry’s field. This influence has resulted from the long history of
American oil firms in Calgary’s economy, through either branch headquarters of US-based firms or American subsidiaries. However, Calgary’s local field is not a copy of the field of the petroleum industry. Rather, the region’s economic, political and social institutions serve to reproduce a field that, while influenced by the norms and traditions of the American oil industry, still retains its unique local attributes. This field, combined with the number of actors whose habitus was influenced by their time in the petroleum industry, has produced a particular entrepreneurial culture in Calgary that in turn has led to the development of the unique set of entrepreneurial practices observed in the region. As shown in this chapter, these practices include a focus on building economic capital, a lack of attachment to an entrepreneurial lifestyle and a lack of interest in networking with other entrepreneurs.

Calgary’s oil-dominated local field appears to create challenges for entrepreneurs whose habitus is more attuned to the field of technology entrepreneurship, in which the act of overcoming technical challenges is privileged over making a profit. Even entrepreneurs outside the oil industry are influenced by its pervasive effect on the local field — there is evidence that such entrepreneurs encountered resistance when they tried to acquire resources, such as financing or advice, from people who are used to the rules and norms of the petroleum industry as opposed to the technology industry. Thus, technology entrepreneurs in Calgary face the challenge of finding a balance between the often contradictory rules and norms of the local field, the industrial field of the oil industry, and the field of technology entrepreneurship.

This chapter investigates how entrepreneurs react to the conflicts between the local field and the field of technology entrepreneurship. In the next section, the development of Calgary’s local field is analyzed through the region’s economic history and relationship with both the foreign and domestic petroleum industry. The chapter then looks at the influence of the field on the firm formation process, with particular attention to how the field promotes entrepreneurship as a path to wealth. Next, it discusses how the local field has led Calgary entrepreneurs to the common practice of structuring their firms to allow for profitable exits by selling their firms while at the same time diminishing their desire to engage in future acts of entrepreneurship. Then, the next chapter examines how Calgary’s large population of angel investors is influenced by both the local field and their experience in the oil industry and how this creates challenges for their investments in technology firms. The penultimate section discusses the seemingly
contradictory findings of high rates of active networking amongst entrepreneurs with low levels of self-reported social capital. The chapter concludes by discussing the significant differences between entrepreneurship in Calgary and the rest of Canada.

2. The Role of Petroleum in Calgary’s Local Field

2.1. The Historical Role of the Petroleum Industry in Calgary’s Economy and Culture

Calgary was a farming community and police outpost before the discovery of oil in Turner Valley in 1902 sixty kilometers southwest of the city. While this discovery set off a mini-oil rush in the province, its true importance was its role in establishing Calgary as the center of oil activity in Western Canada. This made Calgary the natural site for oil firms to set up their operations after the 1947 discovery of the larger Leduc oil field, even though the site is geographically closer to Edmonton (Brownsey, 2005). This path-dependency helped Calgary emerge as a hub of Canada’s energy industry, particularly as the Canadian oil sector moved west from Toronto and Montreal throughout the later half of the 20th century (Foster, 1979). By the 1970s, two-thirds of all petroleum firms in Canada were headquartered in Calgary (House, 1980). This trend has only increased in the past decade as the Albertan oil sands were developed: all of Canada’s ten largest energy firms are currently headquartered in Calgary.

While Calgary was the center of Canada’s oil industry by the 1970s, the industry itself was historically dominated by US firms that either set up Canadian subsidiaries or operated directly in Canada (Breen, 1993). Most of the major Canadian oil firms were established by US or European firms and, in many cases, are still controlled by them (Chastko, 2004). Despite attempts in the 1980s to ‘Canadianize’ the industry as part of the National Energy Program, many of the largest oil corporations in Canada are still majority-owned by US firms today. Even though Canadian oil firms now have more freedom to develop independent organizational cultures and outlooks, their history of foreign control shaped their organizational fields and they remain influenced by the norms and conventions of the US oil industry.

The lack of research into the organizational culture of the oil industry makes it difficult to speculate how Calgary’s local field may differ from the hypothesized field of the oil industry.
However, it is possible to examine how this industrial field has become embodied in local institutions and how these local institutions reproduce the field. The organizational structures and norms of foreign energy firms were imprinted in the region through the pervasive economic presence of US subsidiaries, which served as a major training ground for most of the industry’s engineers, managers, and technicians (Johnson, 1983). During the 1950s and 1960s, many executives of domestically owned oil firms in Calgary had spent time in large US-controlled firms like Imperial Oil (the largest oil firm in Canada) and absorbed these firms’ organizational culture (Foster, 1979). This trend appears to still be visible today as many interviewees mentioned that they initially moved to Calgary in order to take a job at one of the larger oil firms. Only through their work at these firms taught were they able to learn the industry’s unwritten rules, which they carried with them when founded their own startups.

The relocation of the largest Canadian oil firms from Toronto and Montreal to Calgary in the 1970s and 1980s helped solidify the position of the oil industry within Calgary’s cultural structure and allowed for the development of a local field in Calgary that was apparently distinct from that of the oil industry. The presence of corporate headquarters in the city meant that all phases of the oil industry, from financing to marketing, were now located in Calgary and the leaders of these corporations were now the most powerful people in Calgary’s social environment (House, 1980). Calgary’s experience appears to be similar to the process by which Houston developed its own local economic culture, which for many years was dominated by subsidiaries from New York City and Philadelphia. Only after these firms relocated to Houston in the 1970s did the city move from a site of production management to one of corporate command and control (Fagin, 1985). These movements helped shift the culture of the US oil industry from one associated with East Coast financiers to the oilmen of Texas, meaning that the industry developed a much more independent, entrepreneurial character (Goodwyn, 1996). A similar shift can be observed in the Canadian oil industry from a focus on oil refining, marketing and financing centered on Toronto and Montreal to a new industrial focus on exportation and production located in Calgary beginning in the 1970s (Breen, 1993).

Calgary’s contemporary oil economy is split into two major sets of actors: the Majors — the six or seven largest petroleum firms in the nation — and the independent ‘wildcats’ who drill for oil and gas on marginal lands. Only the Majors — firms such as Imperial Oil, Enbridge and
Suncor — have the financial and technical capacity to participate in the new capital intensive, non-traditional developments like the tar sands that now make up the bulk of new Canadian oil production (National Energy Board, 2012). The independents producers’ lack of capital restricted them to drilling for oil and natural gas in the more easily accessible land of southern Alberta. These are largely Canadian-owned operations which have diversified Calgary’s oil culture. When independents succeeded, the potential rewards of risk-taking and entrepreneurialism were visible throughout the community, encouraging workers to leave the Majors to find their fortune in starting or working at smaller independents. While there are many small independents in Alberta (53% of all oil firms have fewer than 4 employees), their impact on the economy is relatively minor: they account for less than 30% of total employment in the sector and their combined daily oil production is less than a third of that of the Majors (Mansell et al., 2012).

However, even though the role of small oil firms in the economy is limited, the often colorful stories and histories of these firms helped foster the perception of the industry as one of ‘roughnecks’ and ‘cowboys’. This image has been purposefully reproduced in Calgary through cultural events such as the Calgary Stampede, an annual event that has become major part of the city’s social calendar and is used by many oil firms as a networking platform (Foran, 2008). However, this ‘cowboy culture’ obscures the fact that the goal of Calgary’s oil industry is not primarily about exploration or production, but risk management. Given the expensive and capital-intensive nature of oil exportation, oil firms seek to limit their risk through careful geophysical and market analysis. While the perceived masculine, roughneck-inspired culture of Calgary may be disconnected from the reality of the 21st global energy economy, it still has material effects on how workers, managers, and entrepreneurs in Calgary see themselves and the practices they choose, fostering a willingness to take on risks, as long as those risks are carefully managed (House, 1980; Miller, 2004; Miller, 2012).

2.2. Technology Development within Calgary’s Oil Industry

The power of the petroleum industry is near hegemonic in Calgary’s local field. According to House (1980 p. 2): “oil dominates the economic and social life of the city.” The oil and gas industry accounts for an estimated 53% of Alberta’s GDP and 40% of its employment after
taking into consideration multiplier effects (Miller and Smart, 2011). Many of these spillovers accrue to firms supporting the oil industry, from equipment suppliers to specialized software developers for the sector’s unique needs and consultants with specific skills like geophysical analysis. The oil industry’s pervasive effect makes it difficult for businesses that are unconnected to the industry to develop and prosper in the region. As Romanelli and Chessman (2005) argue, it is difficult for smaller industries to develop their own identity in a region within the shadow of a powerful, dominant industrial cluster. Langford et al. (2010) quote a successful entrepreneur who advised: “never start into a business [in Calgary] that doesn’t have direct implications and impact on the oil and gas industry. This is an oil and gas town” (p. 3). Interviewees generally concurred with this view, with one investor saying, “a lot of technology [entrepreneurship] happens here. I think that 10 or 11% of the population is employed in the technology sector, but 99.5% of that is in technology for oil and gas.” (C135) Indeed, of the 28 entrepreneurs interviewed in Calgary for this project, 17 (68%) served the oil and gas industry.

While multiple industrial clusters have developed in Calgary, they are often associated with the oil industry. This is the case of Calgary’s wireless technology industry, which was initiated through a partnership between Alberta Government Telephone (now named Telus) and the Nova Corporation, a pipeline corporation to create NovAtel. The goal of this project was to develop better wireless communication tools for the province’s geographically dispersed oil and drilling operations (Lucas et al., 2009). Much like in the case of Nortel and the NRC labs in Ottawa, NovAtel acted as a magnet to attract technology workers to the region and as an incubator for entrepreneurial ideas. Langford et al. (2003) chronicle the complex genealogy of NovAtel spinoffs, both during its operations and after its dissolution in 1992, which served as a trigger for the development of one of Canada’s largest ICT clusters. While this cluster has evolved beyond supporting the oil industry, it would not have existed without it (Corona et al., 2006). While successes unconnected to the oil industry have occurred, such as SMART Technologies, an interactive white board firm with revenues around 700 million dollars or iStockphoto, a stock photo website acquired by Getty Images for fifty million dollars, these independent technology efforts are the exceptions.

Outside of the creation of NovAtel, the government has played a minimal part in the creation and reproduction of Calgary’s entrepreneurial culture. The politically conservative
ideology of the provincial government has led them to focus on creating a low-tax, low-regulation environment rather than more interventionist policies like those found in Ontario (Riding, 1998). Organizations like Calgary Technologies Inc (which was merged with the University of Calgary commercialization office in 2010 to form Innovate Calgary) provide subsidized office space to incubate technology firms, networking events to encourage interaction and knowledge sharing between entrepreneurs and an angel investment ‘bootcamp’ to prepare entrepreneurs to meet a pre-selected group of active angel investors. However, interviews with entrepreneurs and investors suggest the impact of these programs has been limited. As will be argued in section 7, Calgary’s local field does not incentivize networking between entrepreneurs because these activities take time away from finding customers or otherwise developing the firm. The local colleges and universities such as the University of Calgary (UC) and the Southern Alberta Institute of Technology (SAIT) have had a limited role in the region’s entrepreneurial environment. While several entrepreneurs reported benefitted from the entrepreneurship classes offered by UC and SAIT, these institutions are more focused on creating a trained workforce for the province’s oil industry than creating an entrepreneurial outlook amongst their students.

2.3. Attributes of the Oil Industrial Field in Calgary

Even if it is impossible for this research to precisely identify the ways in which Calgary’s local field and culture differ from that of the American oil industry, it is still possible to examine which aspects of this local field affect the entrepreneurship process. An important feature of Calgary’s local field is the high value placed on economic capital and the low value of the symbolic capital of entrepreneurship. Interviews with entrepreneurs, investors and economic development officials suggest that actors are motivated by the goal of accumulating economic capital (the profits from an entrepreneurial endeavor or investment) rather than the symbolic capital (the social prestige) of starting and running an advanced technology company. This has supported a strong competitive spirit in the region, as actors tend to benchmark their own wealth against those of their friends, neighbors and business competitors. As an early sociological study of Calgary’s oil industry argued: “the spirit of competition [in Calgary] translates into the need to make a good living and achieve career success” (House, 1980 p. 44).
The focus on economic capital appears to have reduced the symbolic capital associated with entrepreneurship. While entrepreneurship has the potential to generate a great deal of economic capital, an entrepreneurial windfall takes years of preparation. During this time, entrepreneurs typically makes less money while working far harder and bearing far more risks than those in the traditional labor market. In communities like Waterloo or Ottawa, the lack of immediate economic reward for their labor is offset by the symbolic capital of being an entrepreneur, particularly in high-tech sectors. This does not appear to be the case in Calgary. As is argued throughout the chapter, it appears to be the economic capital produced by entrepreneurship, rather than the act of entrepreneurship itself, which is valued within the community. The frequency of certain entrepreneurial practices in Calgary, such as the high rates of ‘trip’ entrepreneurship and purposeful pursuit of an acquisition appear to be related to the importance of economic capital within Calgary’s local entrepreneurial field.

Calgary has a long history of entrepreneurship in the energy sector but its experience with technology entrepreneurship is far shorter. For this reason, many of the elements of the local entrepreneurial field appear to come from the field of the oil and natural gas sector. This includes a priority placed on accumulating economic capital and a focus on building fast-growing startups that can eventually be acquired by a larger company. Within this field the immediate economic capital a firm can generate is more important than the symbolic capital of building an internationally recognized technology startup. While local organizations like Innovate Calgary and the University of Calgary play a role in teaching entrepreneurial skills, their impact on the overall field appears to be minimal.

The goal of this chapter is to examine the processes by which these field-based values have created a unique local culture that has led to the emergence of regionally-specific entrepreneurial practices. As the rest of this chapter details, the role of economic capital within Calgary’s field has helped produce a unique entrepreneurial culture that has had a profound effect on the nature of entrepreneurship within the region. Calgary’s experience is a clear example of the mechanisms that link a region’s overall cultural and economic structure with the individual practices carried out by entrepreneurs based on their own understanding of what kinds of decisions make sense given their own goals and understanding of their entrepreneurial environment.
3. Firm Formation

3.1. Entrepreneurial Goals

One of the most striking differences in entrepreneurial practices found in Calgary compared with those in Ottawa and Waterloo is the influence of economic capital on entrepreneurial intentions and goals. Based on their answers to questions about why they started their firms, entrepreneurs’ goals can be classified as economically-oriented (a desire to profit through entrepreneurship), control-oriented (to have control over their economic destiny), technology-oriented (creating an advanced technology or a company they can be proud of), or stability-oriented (a business that produces a steady income to support their lifestyle). The rates of entrepreneurs identifying profit as their primary reason for starting their firms are significantly higher in Calgary than in Ottawa and Waterloo (see Table 7.1).

Table 7.1: Entrepreneurial Goals of Firms by City

<table>
<thead>
<tr>
<th>City</th>
<th>Profit-Oriented</th>
<th>Control-Oriented</th>
<th>Technology-Oriented</th>
<th>Stability-Oriented</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calgary</td>
<td>12</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Waterloo and Ottawa</td>
<td>3</td>
<td>8</td>
<td>15</td>
<td>3</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: Interviews
($\chi^2 = 17.1 p < .01$)

Note: The entrepreneurial goals of several respondents could not be identified because this classification is based on a comprehensive review of the entire interview, rather than a direct question. These are listed as ‘NA.’ Chi square test excludes NAs.

The preponderance of entrepreneurs citing a profit-orientation as their reason to start a firm is an example of the effects of the prioritization of economic capital within Calgary’s local field. The owner of a software firm in the oil and gas sector explained that he “…just wanted to be rich and I knew that working for someone else wasn’t going to get me there. So pretty early on I knew that I was going to have to do something, I just didn’t know exactly what it was.” (C126) Another entrepreneur outside of the oil sector discussed how he stopped being a contractor and founded his own software startup because “…one of the big things that motivates me and really bugs me about contracting is that I'm never going to get rich being paid by the hour. From my perspective, I need to find some sort of escalator.” (C111) Profit, rather than the
freedom of being their own boss or the pride of building a sustainable firm, was the main motivating factor for this group of entrepreneurs.

This phenomenon extends beyond entrepreneurs in the oil and gas industry. As Table 7.2 shows, there is no significant difference in the entrepreneurial goals of Calgary entrepreneurs who serve the oil and gas industry and those in other markets. This suggests that the logic of economic capital is goes beyond the petroleum industry and has become part of the overall doxa of Calgary’s local field, affecting even those without any direct connection to the oil industry. The widespread nature of this view indicates that the high value of economic capital is an integral part of the local culture.

<table>
<thead>
<tr>
<th>City</th>
<th>Profit-Oriented</th>
<th>Not Profit-Oriented</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Industry</td>
<td>8</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Non-Oil Industry</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: Interviews
($\chi^2 = .028 p = .87$)
Note: chi square excludes NAs

These data suggest that Calgarians do not see entrepreneurship as a part of a larger, independent lifestyle. Instead, the majority of entrepreneurs interviewed started their firms primarily as a way to acquire economic capital, which they saw as the most important type of capital within Calgary’s field. This differs significantly from what was found in Ottawa and Waterloo, where entrepreneurs rarely cited economic capital as their primary goal. The importance of economic capital within the industrial field of the oil industry has been transferred into Calgary’s local field. It has become part of the local field and now influences the goals of entrepreneurs both within and outside the petroleum industry.

3.2. Entrepreneurial Intentions

Calgary’s local economy, as well as its local field and culture, have led to high rates of trip entrepreneurship in Calgary. Trip entrepreneurship occurs when entrepreneurs decide to start a firm only after they had identified an opportunity, as opposed to purposefully seeking out
entrepreneurial opportunities (pull effects) or being forced into entrepreneurship by a job loss or other event (push effects). A majority of entrepreneurs in Calgary (56%) were classified as ‘trip’ entrepreneurs, as opposed to 26% in Ottawa and 42% in Waterloo, a significant different ($\chi^2 = 4.89, p < .1$). This can be seen as a function of Calgary’s economy. The low rates of entrepreneurs affected by push factors are related to Calgary’s current tight labor market for those with technology skills that are in demand, ensuring that these workers can easily find new employment if they lose their current job instead of having to turn to self-employment (see Cross and Bowlby, 2006). The three cases of entrepreneurs pushed into entrepreneurship that were identified in Calgary occurred during downturns in the oil economy, which reduced opportunities in the traditional labor market.

Furthermore, the high rates of entrepreneurs who ‘tripped’ into entrepreneurship suggest that while the symbolic capital of entrepreneurship may not be highly valued in Calgary’s local field, the act of entrepreneurship has been normalized within it. That is, it is seen as normal for professionals in Calgary to spend time in both traditional employment as well as self-employment. The very high rates of self-employment in Calgary suggest that entrepreneurship is commonplace in the community. Given that 12% of the labor force are self-employed, it is likely that many potential entrepreneurs already know another entrepreneur, which helps them become familiar with the challenges and rewards of starting their own business. Given this, the choice to leave a stable job to pursue a newly identified entrepreneurial opportunity may seem less risky. It is not unusual for nascent entrepreneurs, especially those already familiar with the oil industry, to scan their environment for potential opportunities. After identifying one, they may choose to pursue it for a variety of reasons, such as feeling stifled in the bureaucracy of a large company or because they believe that this is their best path to maximize their economic capital. As one entrepreneur noted:

It’s very common for someone who works in an oil company, especially in the geophysical side, if they have perceived that there’s a play available and their current employer either doesn’t have the finances to exploit that or confidence in them to exercise it, you see these kinds of people launching off on their own. …That’s how it works here. People that live in this area are familiar with that process and it’s quite common. So they see their neighbor can become extremely successful and do very well, and so people are encouraged by that. (C104)
Calgary’s economy also reduces the risks of entrepreneurship. The oil industry has a constant demand for support services, either new types of service to fill open market niches or commodity services such as geophysical analysis, IT support or contract software development. Many entrepreneurs with experience in the petroleum industry were able to identify an opportunity closely related to their prior job, allowing them to bring existing clients to their new firm. This allowed these individuals to start their firms with the knowledge that they would have an immediate revenue stream. Even when entrepreneurs started their new firm without any initial clients, the region’s tight labor market meant that they could easily find other jobs if the firm quickly failed. Almost all entrepreneurs interviewed felt that it would be easy for them to find another job given their technical skills. One entrepreneurs’ discussion of his contingency plan if his firm did not succeed encapsulated this view: “I had lots of opportunities if the company didn't work out. I could continue doing software consulting or I could have returned to the engineering side. So I felt there was low risk afterwards. I wasn't going to be destitute.” (C115)

While the high rate of entrepreneurs who only started their firms after identifying an opportunity is related to Calgary’s economic structure, the availability of opportunities and the low risk of entrepreneurship alone do not explain the entrepreneurial intentions observed. Calgary’s culture also plays an important role. Oil firms’ demand for support services has created an environment rich with entrepreneurial opportunities, helping to generate high levels of entrepreneurship in the region. These high rates normalize the act of entrepreneurship by allowing potential entrepreneurs to see that starting their own business is not that risky. More importantly, many entrepreneurs believe that starting their own business is their best way to maximize their economic capital. Even though many of the interviewed entrepreneurs knew that entrepreneurship did not guarantee wealth, they still viewed entrepreneurship as a way to become wealthier than if they stayed in traditional employment. Overwhelmingly, respondents in Calgary did not become technology entrepreneurs because they valued the act of entrepreneurship but rather because they thought entrepreneurship was the best way to generate the economic capital that is so highly valued in their community. Their practices point to the importance the field attaches to economic capital relative to the symbolic capital of being a technology entrepreneur.
4. Firm Growth and Change

4.1 Firm Growth and Exit Strategies

Based on their firm’s history of growth and their future expansion plans, 21 of the 28 (75%) interviewed entrepreneurs were classified as growth-oriented. This rate is higher than those found in Ottawa (51%) or Waterloo (47%). This is undeniably related to the oil industry. Almost all interviewed entrepreneurs agreed that price was rarely a consideration in the petroleum sector. As one entrepreneur put it: “if you're doing direct projects for them, money isn't an issue, they just want to get it done. Even with Syncrude, we suggested to them how to save money, they didn't care. They weren't interested in saving money, they were only interested in getting it done.” (C103)

However, even entrepreneurs outside the oil sector viewed growth as the natural path for their firms. For instance, the founder of an e-training firm sees his company’s fast growth as unexceptional and likely to continue: “we’ve been growing by 60% a year, every year, essentially since we started. We think if we can maintain that then we should have a nice profitable business for a fairly long term.” (C110) This mindset can be contrasted to the situation in Waterloo and Ottawa, where most entrepreneurs approached the challenges of growth far more cautiously than was observed in Calgary. The visible presence of other large startup firms in Calgary provides many examples for new entrepreneurs about the viability of quickly building a large firm. Thus, unlike the case in Waterloo or Ottawa, there are few examples in Calgary where entrepreneurs purposefully employed strategies designed to slow down growth in order to reduce risk. Instead, the creation of a fast growing firm has been normalized within Calgary’s local field to the point where the risks associated with it, such as taking on outside capital or debt, are not seen as unusual, particularly when this growth can be translated into increased economic capital for the entrepreneur when their firm is eventually acquired.

Many entrepreneurs interviewed in Calgary discussed how they had structured their firms from a very early stage to maximize the economic capital that they would receive when they eventually sold the company. Given the importance of economic capital in the local field, many entrepreneurs said that an acquisition by a larger company was their preferred exit strategy. Interviewees saw this as very common in the local oil industry. In the words of one entrepreneur
in this sector: “…especially [in] the gas business, these little firms get bought up, merged, and some of them bail, but most get merged and their assets get bought by a bigger fish….that’s just the nature of the oil business.” (C104) Both the frequency of mergers within the local oil industry as well as the cultural desire for large exits have contributed to a significantly higher proportion of interviewed entrepreneurs in Calgary planning to exit their firm through a merger or initial public offering (together, 52%) than in Waterloo (25%, t = 2.02 p < .05) or Ottawa (29%, t = 1.78 p < .1). Comments such as “this new [firm] is built for acquisition….it’s basically built to flip” (C124) were frequent in Calgary. Indeed, some even saw this path an inevitable: “what other option is there? Someone will come along and offer you 50 cents a share or $1.00 a share or whatever it is, and that will start the process,” one entrepreneur asked. (C126) In pursuit of this goal, several software developers (both within and outside the oil industry) reported turning down lucrative opportunities because they would not have retained ownership of the software they developed, reducing their value in an eventual acquisition. As a wireless software developer recounted: “we will turn down customers who don't let us own what we do. We have turned down a couple of big deals where they wanted custom development that they'd own.” (C108)

4.2. Attachment to Entrepreneurship

The purpose of entrepreneurship for many Calgary entrepreneurs was to maximize the economic capital their firms could produce. The focus on economic rather than symbolic capital has led to a contradiction between the desire to build a large entrepreneurial startup on one hand and the lack of attachment many interviewees felt to being an entrepreneur on the other. In the words of one entrepreneur, “I created something that someone wants to buy, I've got no emotional attachment to it. It's just a company... If someone today came and gave me an offer on [my firm], I'd be gone tomorrow. No emotional ties to this stuff what so ever.” (C127) Several entrepreneurs discussed how they had willingly sold more than 50% of their firm to investors because their goal was to create a large, valuable firm as opposed to having complete control over it. Most striking, however, were the multiple entrepreneurs who said they were not planning to start another firm after exiting their current firm. Several interviewed entrepreneurs expressed little desire to take on the burdens of creating a new startup if they were already wealthy. Instead, they wanted to dedicate their time to leisure pursuits while acting as part-time consultants as a
way to stay connected with their business community. One entrepreneur discussed his future plans to “... stay engaged with business and other entrepreneurial ventures, probably put some money into some firms, maybe help out with some boards, some mentoring, maybe even some consulting gigs, but I don’t see myself personally being at the center of another major enterprise,” (C117) while another said, “my wife would kill me if I started another company…I think I'd rather work in some kind of advisory capacity with other startups or other firms, rather than start a new one myself. Somewhere I can add value, but on a part-time basis.” (C115)

Such practices point to the low social status and symbolic capital of entrepreneurship in Calgary. In communities like Waterloo, there is a social incentive to become a serial entrepreneur due to higher value of symbolic capital attached to being a successful technology entrepreneur. Successful serial entrepreneurs have a high profile in this community and are often invited to headline events and discussions sponsored by Communitech or the University of Waterloo. This incentive does not appear to exist in Calgary. Dedicating the time and energy and taking on the risk of starting a new business does not seem rational for successful Calgarian entrepreneurs given the low social status accorded to entrepreneurship. Indeed, the symbolic capital of entrepreneurship in Calgary is apparently so low that some interviewees did not even think of themselves as entrepreneurs. As one respondent said: “I wouldn't say that I dreamed about it [entrepreneurship], but I also wouldn't say that I saw myself as doing a 9-to-5 employee gig for the rest of my life. I think it was sort of a preference, but it wasn't central to my being that I must be an entrepreneur, that I must start a business.” (C119) While lifestyle entrepreneurs in all three cities reported similar views, this entrepreneur had built a multi-million dollar firm that was acquired by a major multinational technology company and agreed to stay to remain with the firm instead of moving on to start a new firm because he had little desire to go through the startup process again.

The seeming contradiction between a desire to create high-growth firms and a willingness to leave entrepreneurship can be seen as a consequence of Calgary’s local field and the type of entrepreneurial culture is has created. The high social value of economic capital not only creates incentives for growth, it makes building a high-value firm a matter of common sense rather than a potential risk or burden as it frequently viewed elsewhere. Consequently, many founders in Calgary see entrepreneurship as a path to wealth rather than as a way of life.
There are, of course, exceptions to this: three entrepreneurs interviewed in Calgary closely resembled the expectations of the technology entrepreneurship field, and the rate of serial entrepreneurship (having created or intending to create multiple startups) amongst the interviewed population in Calgary is statistically indistinguishable from Ottawa or Waterloo (32% in Calgary compared to 37% and 36% in Ottawa and Waterloo, respectively). Nevertheless, the views held by entrepreneurs in Calgary regarding the importance of economic capital suggests that Calgary’s local entrepreneurial field has contributed to an entrepreneurial culture which is fundamentally different from what was found in the other two cities.

5. Financing

All the entrepreneurs, investors and economic development officials interviewed in Calgary agreed that, as one entrepreneur put it, “Calgary is awash with money.” (C101) The substantial growth of the region’s oil economy has created a sizable population of angel investors and venture capital firms. However, the amount of investment capital available in the region stands in contrast with the difficulty that many technology entrepreneurs experienced when trying to access this wealth. This difficulty can be seen as an outcome of the differences between the field of technology entrepreneurship and that of the oil industry and Calgary’s local field. In particular, the different understandings of how to judge risk create barriers between investors with a background in the oil industry and technology entrepreneurs.

The quantification of risk in the petroleum industry is highly sophisticated. Due to advances in geophysical science and the increasing regularity of oil exploration, many interviewees believed that oil investors are accustomed to having a good understanding of how much profit they can expect from an investment and the types of risks and challenges they will encounter. As one entrepreneur explained: “if you have reasonably competent staff, reasonably competent science behind what you're doing, you can be pretty much guaranteed what your rate of return is going to be. So an investment dollar in Alberta can go to that known entity where a minimum rate of return is virtually guaranteed and the upside is pretty huge.” (C137) That is, a knowledgeable investor can be confident that an investment in an oil well will generate a particular level of royalties and the risk of a dry well can be managed through careful analysis.
This kind of investment strategy is at odds with the norms of the technology field, where both the risks and rewards of an investment are difficult to quantify. There is a great deal of uncertainty in technology investments: early investors have few ways to quantify the chances that a technology or business will succeed in the marketplace or how much they will profit from the investment (Shane and Cable, 2002). Thus, investors who are used to the certainties of the oil industry find it difficult to rationalize investing in technology startups, when such investments involve larger risks and lower returns. The director of a program that connects angel investors with local technology entrepreneurs recalled a conversation with a potential investor who told him:

See that [oil] hole over there? I’ll thrown $100,000 down that hole tomorrow on 24 hours analysis because I know I have the map, I know where, I know who the players are, I know generally speaking what the risk parameters are. But you tell me that this software guy with this platform that’s going to match up with this and that or this little black box is going to take the world by storm, how do I know that? I don’t know anything about it. (C123)

This is not to say that investors are not interested in the technology sector. Several angel investors and venture capitalists reported that they saw their technology investments as a hedge against a fluctuating oil industry. However, even when investors are interested in local technology firms, the differences between the field of the oil industry and the field of technology entrepreneurship create a barrier to investment and collaboration. Both entrepreneurs and economic development officials said that angel investors with an oil background frequently lacked the knowledge of the technology industry necessary for them easily to make investments and effectively advise entrepreneurs with whom they had invested. As one entrepreneur outside the oil industry explained, “[angel investors] will invest half-a-million dollars to poke a hole in the ground and have no bubbling crude come up way, way, way before they will invest half-a-million dollars in a technology company because they understand it.” (C132)

The disconnect between understandings of risk within the oil industry and the technology industry point to how investors in the two sectors are affected by the norms and rules of the found within fields of the two industries. Investors from the oil industry are used to quantified levels of risk backed up with well understood scientific models. Technology investors, on the other hand, have far less knowledge about the actual risks of their investments or their expected
returns and thus depend on one large success to pay off numerous failures. Within each industry, these investment strategies are seen as normal and unremarkable. It is only when entrepreneurs from the technology industry seek capital from investors embedded in the oil industry’s field do the tensions between the fields emerge. Because this tension is so common in Calgary, entrepreneurs have developed practices designed to overcome the perceived riskiness of technology investments compared to investments in oil wells.

Entrepreneurs found that they needed to educate potential investors about their technology, industry, target markets and opportunity. Three of the eight entrepreneurs who had received angel investments reported giving formal presentations to potential investors in order to make the investment opportunity seem more legitimate. Others discussed how they downplaying their technology in favor of business fundamentals when talking with potential investors. This was necessary because entrepreneurs were concerned that investors with an oil background would not understand the advanced technology they were being asked to invest in. For example, an entrepreneur who developed a complex software tool to manage mail-order wine clubs focused investors’ attention on the more traditional aspects of his business (running a wine club) as opposed to his long-term plan to license his software to other firms because “…wine resonates with a lot of people, which is nice…traditional business understood it. It resonated immediately and it was a very easy sale, and we didn’t have that big of a problem doing our [investment phase].” (C121)

Despite choosing practices designed to overcome the differences between the oil industry field and the technology entrepreneurship field, many interviewees believed that serious problems exist in connecting the region’s investment community with its technology entrepreneurs. An angel investor with a Silicon Valley background was pessimistic about Calgary’s investment environment: “the philosophy here is that they want a standard return like they'd get on a standard oil investment. Payback within three years, they want 12% return. Whereas angel groups and VCs in…California have a philosophy that they know that 1 in 300 will be a home run, knowing that that the one home run will pay for the rest.” (C135) This statement speaks to the fundamental differences between the two fields: investors whose habitus are attuned to the field of the oil industry think about their investments differently than those embedded in other industrial fields. These understandings make sense to those within either field
because their habitus are attuned to the norms of the field in which they operate. Even when investors from the oil field want to make technology investments, these basic differences in how they view the world seem to lead to difficulty when they encounter the *doxa* of the field of technology entrepreneurship.

6. Networking

Entrepreneurs in Calgary had the lowest social capital scores of any city studied. Out of six possible resources in their social networks, Calgarian entrepreneurs utilized an average of 2.04, compared to 2.21 in Ottawa and 2.61 in Waterloo. Though not a significant difference, this still suggests different levels of networking activity in the three cities. In particular, the low rates of social capital utilization suggest that Calgary’s entrepreneurs have smaller networks than their counterparts elsewhere. This notion is supported by the significantly lower proportion of entrepreneurs in Calgary who said they discussed entrepreneurship with their friends and family. Only 46% of entrepreneurs in Calgary reported these kind of conversations, significantly lower than the 64% of entrepreneurs Ottawa ($t = 2.09$). While the difference between the number of entrepreneurs in Calgary who had these discussion and those in Waterloo (70%) is not significant, it is still substantial ($t = 1.28$). This indicates that entrepreneurs in Calgary are less likely to have discussed entrepreneurial challenges with others and that they gather fewer entrepreneurial resources from their social networks.

Based on the existing literature, there are several reasons to suggest that Calgarian entrepreneurs should be very active networkers. First, the petroleum industry is largely project based and oil exploration and development requires the cooperation of many different firms. This means that firms must constantly be looking out for new projects and contracts, knowledge of which is spread through social networks rather than formal requests for proposals according to interviewees. As one entrepreneur suggested: “oil and gas is an old-boys network. It’s a lot more the face-to-face handshaking than a ‘let’s pulverize you.’” (C129) Much like the advertising agencies studied by Grabher (2001), Calgary can be expected to contain constant buzz and knowledge exchange as firms in the oil sector constantly seek out new partners, clients, and suppliers for temporary projects. As House (1980) observed several decades ago, “the Canadian oil industry is...striking for its *explicit* cooperation in advancing technology and solving common
technical problems….Information sharing takes many other forms as well. Indeed, it is all but rampant in the industry.” (p. 46, emphasis in original).

Second, there appears to be a great deal of worker mobility. Employees frequently move between firms, bringing their networks of contacts with them. As one entrepreneur described: “we’ve got 27 people or so on staff and they’ve come from other firms that have contacts from other firms, and when they start working here they might call their contacts up and say I’m not longer at [old firm] and I’m over at [new firm] now and let’s go for lunch.” (C114) Interviewees also suggested that the oil industry’s tendency to cluster the downtown core was a result of the importance of networking in the industry (see Figure 7.1) For example, an entrepreneur decided to locate his business in the downtown core, despite the substantial real estate costs, because “...we’re working with downtown businesses. We meet here at 8 in the morning and we do a quick little morning huddle with the 35 people who work here, and then we scatter to our clients. Most of that is a 5 to 10 minute walk.” (C117) While not all entrepreneurs agreed with this view, both the clustering of oil firms downtown and the perceived importance of locating there suggests that networking within the oil industry is seen as critical for a firm’s success in this competitive, project-based economy. Though there is no direct evidence that there is more buzz or knowledge spillovers in Calgary than in Ottawa or Waterloo, interviewee comments suggest that they spend a more time than their counterparts in the other cities gathering knowledge about the local industry and market conditions through networking with clients and competitors.
On the whole, entrepreneurs reported frequently engaging in networking activities to keep abreast of new developments in the marketplace and find new clients. This suggests that while entrepreneurs actively network, their focus is on finding new clients rather than meeting other entrepreneurs and sharing advice and support with them. Indeed, there is ample evidence that many entrepreneurs in Calgary are extremely active networkers, such as one who reported meeting new clients and investors through his Ferrari Enthusiasts Club and another who met an investor and mentor at a local dog park.

The discrepancy between the low levels of social capital and networking between entrepreneurs and the perceived importance of networking within the oil industry can be seen as a result of the low symbolic capital associated with entrepreneurship in Calgary. Networking between entrepreneurs allows them share advice and learn from one another, but such networking takes time and energy that could otherwise be spent on finding new customers. In fields where entrepreneurship produces a great deal of symbolic capital, more actors can be expected to participate in this kind of networking because of the perceived social value of
meeting other entrepreneurs. Questions about networking in the interviews focused on how they networked with others in order to find resources such as startup financing or advice. Instead, most interviewees indicated they networked intensively within their industries in order to cover new customers, opportunities or markets. They appeared to be unconcerned with improving their skills as entrepreneurs.

This is evidenced entrepreneurs’ reported resistant to participating in government-sponsored entrepreneurship training and networking programs. While Innovate Calgary (a publicly funded startup incubation facility) runs entrepreneurship training and networking programs, no entrepreneurs interviewed — even Innovate Calgary’s own tenants — reported participating in them. Nor did entrepreneurs discuss attending other networking events hosted by the Chamber of Commerce or other local organizations because they did not believe attending these program would lead to increased profits. As one entrepreneur explained: “there’s been quite a few different entrepreneurship groups, but what I have found is that most of them are there because they think they’re going to get a chance to meet potential clients. What it ends up being is a bunch of people like themselves.” (C104)

Some developments suggest that this feature of the field may be changing. Two new grassroots organizations focused on technology entrepreneurship were founded in 2011. Startup Calgary (an entrepreneurship networking group) and The A100 (a mentorship organization that connects Albertan entrepreneurs with mentors and investors in Silicon Valley) are both working to organize the city’s technology entrepreneurship community and raise its profile in the city. These organizations seek to create a better-integrated network of technology entrepreneurs, which, according to interviews with local investors and economic development officials, remains fractured. As one investor put it: “I’ll find a group of people who are working on one idea over here, another pocket of people working on a very similar idea over there and they don't even know each other. In the Bay Area, it was like everyone knew each other. And if you didn't know them you wanted to know them, because your idea could resonate with theirs and together you go forward faster. Here that didn't happen.” (C135) The success of these initiatives will depend on their ability to balance the tensions between the industrial field of the oil industry and of technology entrepreneurship and help create social rewards for the act of technology entrepreneurship.
7. Conclusion

The role of economic capital in Calgary’s field should not be taken as an argument that Calgary has a ‘greedy’ culture. As Ralph Waldo Emerson wrote: “the desire for gold is not for gold...It is the means of freedom and benefit.” (Emerson, 2007 p. 56) Within a Bourdieuan framework, economic capital, like all capital, is a means to establish one’s position within a social field. Instead, this chapter has argued that within Calgary’s field, economic capital is privileged relative to the value any symbolic capital that entrepreneurship generates. Creating a valuable firm has more social significance than creating one that develops an advanced technology. The high value of economic capital can be seen as an outcome of the historical influence of the field of the oil industry on the local field. The low symbolic value of entrepreneurship within Calgary’s local field appears to be an unintended consequence of this. The unique entrepreneurial practices found in Calgary — the willingness to take on the risk of entrepreneurship, planning from an early stage to exit entrepreneurship through an acquisition, and the low levels of networking between entrepreneurs — are the result of the local field.

As a result of the structure of Calgary’s field, the entrepreneurial practices common amongst technology entrepreneurs in Calgary are fundamentally different from those observed in Waterloo or Ottawa. Indeed, the practices that are seen as most legitimate in Calgary, such as the pursuit of wealth through entrepreneurship, would likely be seen as illegitimate in Waterloo where the social prestige, meaning the symbolic capital, of creating an entrepreneurial firm is seen as more important than the profit that a firm can generate. Similarly, the entrepreneurs in Calgary who adhered to the norms of the technology entrepreneurship field encountered difficulty within the local field because of their concentration on building an advanced technology instead of on how to best generate economic capital.

The case of Calgary provides an example of how the features of a powerful outside field, in this case the industrial field of the oil industry, can be incorporated into a local field. The importance of economic capital appears to be imported from the oil industry field into Calgary’s local field. It has since been reproduced through several local institutions, such as the tendency for the Majors to act as training grounds for new entrants to the Canadian oil industry. The structure of this field, in particular the importance of economic capital in establishing social
prestige and the related lower value of entrepreneurial activities, have led to several patterns of entrepreneurial practices unique to Calgary. Importantly, these practices are not limited to entrepreneurs in the oil industry but rather appear to affect entrepreneurs operating outside the petroleum industry. This indicates that the practices are more than a reflection of the industrial norms of the oil business but rather are the result of a locally based culture that has emerged from the collective understanding of Calgary’s field.
Chapter 8
The Role of Bourdieuan Perspectives in Economic Geography and Entrepreneurship Studies

1. Introduction

The use of culture in economic geography has been an important, though problematic development in the discipline. Culture has been frequently regarded as a reified, super-organic entity that influences activity but remains beyond the influence, or even understanding, of those it affects. Often, culture is used as a sort of ‘black box’ used to account for phenomena left unexplained by structural or economic analysis. This has resulted in several serious problems that have reduced the effectiveness and impact of cultural arguments within the discipline. The most pressing issue is the lack of a theoretical framework that describes how an amorphous social force such as culture influences the practices and decisions of economic actors. Instead, culture frequently has been seen as a causal force that compels actors to make particular choices or a culture’s attributes are described with little attention to the underlying processes involved. Consequently, while economic geographers have used arguments describing how regional cultures create a heterogeneous economic landscape, the discipline has not yet provided a convincing argument about the processes and mechanisms involved.

This dissertation offers an alternative approach to culture. Through three case studies of the practices of software entrepreneurs in Waterloo, Ottawa and Calgary, it develops an approach, based on the work of Pierre Bourdieu, that focuses on the processes — rather than the structures — by which regional cultures emerge, evolve and affect the individual decisions and practices of technology entrepreneurs. From a Bourdieuan perspective, a regional culture does not cause a specific set of economic practices to occur. Rather, a regional culture is both the process through which actors make sense of the world around them and a context in which they made decisions. In the context of this research, software entrepreneurs choose specific types of practices, such as taking on outside investments to fund growth or networking with other entrepreneurs, based on their personal goals and understandings of what types of practices seem normal within both their local community as well as their industry. These decisions emerge out of a combination of the fields (the ordered rules, traditions and norms of a social space) the
entrepreneur operates in as well as their habitus, their internalized dispositions and personal understanding of these fields. From this perspective, regional cultures are the dominant understandings of the fields found within a region that emerge over time, as successful practices are imitated by others to the point where they become unquestioned common sense. Culture is therefore best studied as a process through which actors understand the world rather than a discrete structure directly influencing them.

2. Advantages of a Bourdieuian Approach

Though a Bourdieuian approach adds conceptual and empirical complexity, it has several advantages over existing cultural approaches in economic geography which make it a critical addition to the discipline. First, it provides a clear mechanism linking culture with individual practices, helping to open the ‘black box’ of culture and expose the reciprocal relationships between structure and practice. Second, a Bourdieuian perspective leads to an explicit, process-based approach to the emergence, reproduction and evolution of regional cultures. This allows for a dynamic analysis of culture by showing how changes over time occur in response to both internal and external influences. Third, viewing practices as the result of the combination of field-based structures, rules and habitus-based understanding presents an alternative to both structural or agency-centric explanations of human action, both of which have led researchers to impoverished views of human action. Instead of locating practices in either the structural social or economic attributes of a community or in atomistic, individual decisions, a Bourdieuian approach suggests that practices emerge from individual rationality informed by social context. Fourth, placing culture in a Bourdieuian framework allows for a rigorous comparison between regions, industries and populations of both the outcomes and processes of cultural forces. By providing a framework to understand the emergence and evolution of a region’s culture along with a rigorous way to compare cultures across regions, the Bourdieuian approach discussed here addresses the issues raised by Markusen (1999) and others that the cultural turn has resulted in imprecise, ‘fuzzy’ theorizations of how social and cultural influences have affected regional and global economic geographies.

The primary contribution of this research is a novel way in economic geography research to study how regional cultures develop and how they influence the entrepreneurial practices of software entrepreneurs. This is important because in theory, one would expect that the practices
of software firms would only have a lose connection to regional cultures or structures. Since software development is a ‘virtual’ process, unlike more traditional industries it does not necessarily have to draw on local resources or support structures. Therefore, it is possible that the practices of software entrepreneurs should be fairly generic and undifferentiated between regions. However, the empirical evidence from the three case studies show substantial differences between the practices software entrepreneurs use as they start and grow their firms. These differences are not solely attributable to structural differences, such as the markets entrepreneurs sell to or regional economic institutions. Rather, these differences can be seen as the result of the types of outlooks on entrepreneurship that have become commonplace in the region and the types of practices that are seen as the most legitimate. These views evolved over time as different entrepreneurs experimented with new types of practices, some of which were seen as successful and copied by others. Over time, these practices and the logic underlying them become ingrained into the region’s social fabric and became unquestioned, routinized views.

A Bourdieuan perspective provides depth and nuance to discussions of culture that in the past have been dominated by over-simplified models and under-theorized description. In place of assuming the existence of a regional culture based on the practices found within a region, the Bourdieuan approach outlined in this research explicitly examines how these practices emerge from actors’ understanding of their social environment. Such a perspective is critical for understanding the multi-faceted role played by culture in the creation and reproduction of different, diverse economic landscapes. As research on entrepreneurial environments continues to grow, these types of views are necessary to ensure that researchers look beyond the mere presence or absence of entrepreneurial cultures and instead examine the complex arrangement of social influences felt by entrepreneurs.

3. Cross-case Comparison and Synthesis

The similarities and differences in the dominant patterns of practices between the three cities help reveal both the unique attributes of local fields as well as their influence on regional entrepreneurial environments. Each empirical chapter examined six key elements of the local field: (1) the local history of entrepreneurship, (2) the method of local reproduction of the first, (3) the social status of technology entrepreneurship, (4) the primary goal of technology entrepreneurship, (5) the highly valued forms of capital and (6) the role of formal and informal
entrepreneurship organizations and programs, including both university and government-sponsored entrepreneurship programs. Table 8.1 provides an overview of how these elements varied between Waterloo, Ottawa and Calgary.

**Table 8.1: Elements of Local Fields in Waterloo, Ottawa and Calgary**

<table>
<thead>
<tr>
<th></th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
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<tbody>
<tr>
<td><strong>Local history of entrepreneurship</strong></td>
<td>Strong history of entrepreneurship related to discourses of Germanic cooperation and success stories such as RIM.</td>
<td>Strong history of telecommunications spinoffs in the 1970s to 1990s, supported by success stories like Mitel. Shift towards lower risk software entrepreneurship since 2001.</td>
<td>Many successful technology startups within the energy sector, fewer prominent serial entrepreneurs or entrepreneurial mentors. Importance of discourses about ‘cowboy entrepreneurship.’</td>
</tr>
<tr>
<td><strong>Method of local reproduction of field</strong></td>
<td>High social status of entrepreneurship reproduced through local university and government programs and high visibility of successful technology entrepreneurs. This encourages growth based on technological development.</td>
<td>Practices of entrepreneurs evolved after observing the damage done to other entrepreneurs in wake of collapsing telecom market. Entrepreneurs’ experimentation with new practices are observed and copied by others and, if successful, are legitimized within the field.</td>
<td>High rates of entrepreneurship legitimize risk of starting new entrepreneurial venture. Importance of economic capital in the local field encourages growth-oriented practices.</td>
</tr>
<tr>
<td><strong>Social status of technology entrepreneurship</strong></td>
<td>Technology entrepreneurship highly regarded in region, building advanced technology creates social prestige for founders, investors and advisors.</td>
<td>Social respect for high-risk technology entrepreneurship decreased in wake of telecom bubble. More respect given to entrepreneurs capable of growing firm while minimizing risk.</td>
<td>Technology entrepreneurship is highly valued for the economic capital produces rather than the advanced products or services it provides. Little desire to become serial entrepreneurs after initial success.</td>
</tr>
<tr>
<td><strong>Primary goal of entrepreneurship</strong></td>
<td>Building advanced technological product that is competitive in international markets.</td>
<td>Creating a sustainable entrepreneurial firm that can create reoccurring revenues and support future endeavors.</td>
<td>Creating an entrepreneurial venture capable of generating high levels of economic capital for the founder.</td>
</tr>
<tr>
<td><strong>Highly valued forms of capital</strong></td>
<td>Symbolic capital.</td>
<td>Symbolic capital and economic capital.</td>
<td>Economic capital.</td>
</tr>
</tbody>
</table>
Role of formal and informal entrepreneurship organizations

Strong role of university and economic development officials in promoting technology entrepreneurship. Formal entrepreneurship programs and informal networks of successful entrepreneurs help increase legitimacy of risk entrepreneurship.

Role of university and entrepreneurship programs have declined as they failed to adapt to new economic realities. Emergence of informal, grass-roots entrepreneurship programs to connect new generation of software entrepreneurs.

Little role of universities in promoting entrepreneurship beyond basic skills. Formal entrepreneurship programs have played marginal role in promoting technology entrepreneurship.

Influence of non-local field

Strong influence by the field of technology entrepreneurship, which is reproduced locally through UW and Communitech.

Historical role of the federal government in created the foundations for modern technology economy. Still maintains strong influence due to its consumption of technology consulting and development.

Local field heavily influenced by legacy of oil and natural gas industry, which came to the region through branch offices of US and UK corporations. These influences have expanded beyond energy industry and influence almost every aspect of local culture and economy.

These attributes simultaneously constitute the local field as well as emerge from it. For instance, the role of formal and informal entrepreneurship organizations and programs is dictated by the structures of the field: there will be a political incentive to support one type of entrepreneurship (such as high-growth technology entrepreneurship) if that type of entrepreneurship is held in high regard within the local community. However, as the case of Waterloo makes clear, these programs can also influence the nature of the field itself. Similarly, while the most important form of capital in a field is a result of the local social and economic history of a region, this has a profound affect on other aspects of the field, such as the primary goal of entrepreneurship.

The presence of these different field-based attributes have led to substantial variations in the entrepreneurial practices between the three cities. As this dissertation has argued, these are not necessarily connected with the regions’ economic structure but are rather connected to their entrepreneurial cultures. As Table 8.2 summarizes, the practices entrepreneurs employed as they
started and grew their firms, as well as how they financed it and networked with other entrepreneurs differed significantly. The empirical case studies argued these differences are best explained through the rules and norms of the local field rather than structural economic factors.

**Table 8.2: Dominant Practices of Technology Entrepreneurs in Waterloo, Ottawa and Calgary**

<table>
<thead>
<tr>
<th>Firm Formation</th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
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<tbody>
<tr>
<td>Habitus of UW graduates encourages them to form growth-oriented firms without clear market or product plans.</td>
<td>Many firms started in response to lack of opportunities in local labor market. Firms formed after market opportunity is identified.</td>
<td>Firms started as way for founder to accumulate economic capital with secondary goal of escaping corporate bureaucracy.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Firm growth and change</th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
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<tbody>
<tr>
<td>Growth-oriented practices are legitimized within the community, allowing ‘ambitious’ entrepreneurs access to critical incubation and mentoring resources. Others entrepreneurs are more cautious of growth.</td>
<td>Fast growth practices have been delegitimized by collapse of telecom economy. Entrepreneurs now reduce risk through consulting. Smaller group of entrepreneurs seeks to balance growth with risk-adverse outlooks with SaaS strategies.</td>
<td>High-risk, growth-oriented practices are normalized within region. Importance of economic capital in the field encourages entrepreneurs to quickly expand their products and services.</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Firm Financing</th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
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<tbody>
<tr>
<td>Significant distinction in use of friends and family capital. ‘Ambitious’ entrepreneurs look for equity investments in order to legitimize their growth while ‘satisfier’ entrepreneurs take capital in form of loans to reduce social tension.</td>
<td>Collapse of investment environment in after 2002 delegitimized external financing. Entrepreneurs employ new practices that allow them to remain stable or grow the firm through organic revenues rather than depending on informal or formal outside investment.</td>
<td>Technology entrepreneurs have difficulty attracting angel investment because investors are used to the norms of oil exploration. However, high margins within energy industry allow them to grow without the need for outside investment.</td>
<td></td>
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<table>
<thead>
<tr>
<th>Networking</th>
<th>Waterloo</th>
<th>Ottawa</th>
<th>Calgary</th>
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</thead>
<tbody>
<tr>
<td>Networking with other entrepreneurs very common amongst growth-oriented, ‘ambitious’ entrepreneurs and encouraged by local organizations. ‘Satisfier’ entrepreneurs less willing to dedicate time to networking at expense of firm development.</td>
<td>Almost universal view that local economic development groups do not provide effective platforms for networking. While some entrepreneurs avoid networking outside of business development, there is a large group of entrepreneurs starting their own grass-roots organizations to provide forum to meet other local software entrepreneurs.</td>
<td>Clustering of firms serving the oil industry encourages substantive networking with clients and suppliers, but little evidence of networking between entrepreneurs. Little incentive to network with other entrepreneurs when energy could be dedicated to finding more clients. However, some evidence of grass-roots organization in the non-oil related technology community.</td>
<td></td>
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</tbody>
</table>
The reasons entrepreneurs gave for starting their firms were deeply rooted in both the nature of the local field and their position within it. Some younger entrepreneurs in Waterloo formed their firm without much thought to their initial product or market. The high social status of entrepreneurship within the field influenced their habitus and justified these risky practices. Entrepreneurs without this habitus exhibited a more cautious approach, only leaving their previous job after identifying what they thought was a profitable opportunity. While many entrepreneurs in Ottawa were forced into entrepreneurship due to the collapse of the region’s telecommunications economy in the early 2000s, more recent entrepreneurship has occurred through a desire of the founders to control their economic destiny, rather than a desire to build internationally competitive technology firms as in Waterloo or a desire to become wealthy as in Calgary. Calgarian entrepreneurs almost unanimously cited the desire for wealth as their primary reason for starting their firms, a rationale clearly related to the importance of economic capital within the field.

The practices entrepreneurs employed as they grew their firms were similarly related to the their beliefs about what kinds of activities made sense to them given their position within the field. Ambitious entrepreneurs in Waterloo had a very naturalized view of growth, seeing aggressive growth catalyzed by outside investment as the natural path of development. Other entrepreneurs without this habitus held a more cautious view of growth, seeking to actively manage it in order to ensure that it did not bring undue risk to the firm. Cognizant of the startups that failed as a result of the declining telecommunications market, entrepreneurs in Ottawa were even more aware of the risks of unmanaged growth. Some entrepreneurs refused to grow in order to reduce this risk while others adopted specific practices, such as Software-as-a-Service (SaaS) strategies in order to ensure that they did not overextend themselves. Conversely, entrepreneurs in Calgary are very growth-oriented. Most entrepreneurs interviewed, particularly those serving the local energy industry, were planning to develop a specialized product and grow their firm as quickly as possible with the goal of being acquired by a larger energy firm. These Calgary-specific practices are related to the view within the field that the primary purpose of entrepreneurship is to produce economic capital for the founder.
Entrepreneurs’ financial practices were closely linked to their views on growth and the purpose of entrepreneurship. While the majority of entrepreneurs in each city said they did not anticipate seeking outside investment, their reasons for this view differed based on the entrepreneurial norms of their local fields. Ambitious entrepreneurs in Waterloo were the most willing to take on outside capital, but were clear that it should be in the form of an equity investment rather than a loan. The latter was seen as illegitimate because it called into question the future growth prospects of the firm. Other, less growth-oriented entrepreneurs in Waterloo preferred loans from family and friends because these were seen as less likely to damage ongoing social relationships. Entrepreneurs in Ottawa were very hesitant to accept any kind of outside investment, given the legacy of failed angel and venture-backed startups. They therefore adopted strategies that would allow for stable growth without outside investment, such as government consulting or choosing SaaS over traditional software sales models. While entrepreneurs in Calgary were often open to the general idea of outside investment, the difficulties of working with angel investors more accustomed to the investment returns and time horizons of natural gas wells than technological development was often a barrier to attracting investment. However, the high margins supporting the oil and natural gas sector meant that many firms were able to generate substantial growth without the need for investment.

The frequency and willingness of entrepreneurs to network were clearly affected by the local field. Organizations like Communitech have naturalized the act of networking with other entrepreneurs within Waterloo’s local field. This encourages a subset of the growth-oriented entrepreneurs in the community to dedicate a great deal of time to networking with and learning from other entrepreneurs through both formal networking meetings and informal gatherings of their friends. Others who were less exposed to Communitech’s or UW’s programs reporting seeing networking as far less important than finding new clients or building their firm in other ways. Networking in Ottawa is marked by the belief of many entrepreneurs that OCRI’s entrepreneurship and networking programs are not well suited for their changing needs. This has discouraged communication between entrepreneurs in the community and reduced the social incentive to learn from other entrepreneurs. However, there is evidence of grassroots organizations looking to encourage meetings between entrepreneurs in specific software sub-sectors, such as those in SaaS or social media markets. Finally the value of economic capital has seemingly reduced the importance of social capital between entrepreneurs within Calgary’s local...
field. Most entrepreneurs were not willing to dedicate a time to meeting other firm founders, but instead focused on networking within the local energy industry in order to find new clients or partners.

4. Process-based Views of Culture and Practice

From a Bourdieuan perspective, a regional culture is neither the abstract social entity of the Sauer School nor a social discourse as argued by Mitchell (1995). Rather, regional culture can be thought of as the dominant processes through which actors within a region make sense the world around them through their understanding of the rules and conventions of the fields affecting them. Though some of these fields may exist outside the region (such as the fields of particular corporations or industries) the understandings of the field are produced locally through observation and learning processes. In this sense, regional culture is real and can be objectively studied by researchers. But within the objective ‘rules’ of a regional culture, actors retain a great deal of freedom to experiment with new types of practices. Differences in how actors value various forms of capital and their conscious or unconscious understanding of how field-based rules of the field affect them make new types of practices seem more practical or sensible. If these new types of practices are successful, they may be imitated and have the potential to change the fundamental structure of the local field.

Based on this view, regional cultures are better understood as a process rather than as an entity or structure. Culture should not be interpreted as the root source of practices. As has been argued throughout this research, such views result in a number of conceptual and empirical problems which prevent culture from being an effective tool in the explanation of the creation and reproduction of a differentiated economic landscape. A process-based view interprets regional culture as a context in which actors make decisions about what practices make the most sense to employ. This context produces the patterns of practices observed within regions, which in turn, depend on the field and habitus.

Each case examined the practices of software entrepreneurs and provided examples of how certain types of practices and outlooks became dominant and solidified into what can be described as a regional culture. In Waterloo, this process involved a series of local forces, including formal organizations such as Communitech along with informal institutions such as the
ethos of entrepreneurship fostered within the University of Waterloo. Waterloo’s regional entrepreneurial culture is marked by a high degree of social respect given to entrepreneurs, especially for those in the technology sector, as well as a belief in the importance of technological innovation and commercialization. This culture has developed over time both through the purposeful efforts of some organizations to foster an entrepreneurial outlook within the community as well as more passive and informal measures such as the presence of many entrepreneurial success stories and mentors in the community. The high social status of technology entrepreneurship allows entrepreneurs in Waterloo to employ practices rarely observed in either Ottawa or Calgary, such as entrepreneurs starting their firm without a clear idea of what their market will be or to persuading employees to accept lower or delayed pay during the startup process. Using the framework established in Chapter 3, this can be seen as a decidedly local process, whereby the institutions and organizations that establish the high social status of entrepreneurship in the community are themselves supported by this social status and legitimization of growth-oriented technology practices. Even though some of these features come from outside the region, such as views on entrepreneurial growth which are connected to the field of technology entrepreneurship, entrepreneurs in Waterloo have internalized them into their habitus though processes occurring within the region, such as when younger entrepreneurs are mentored by the founders of successful local technology firms (see Figure 8.1). Therefore, organizations like the University of Waterloo or Communitech should not be seen as the origin of this culture but instead as part of the process through which this culture is produced and reproduced throughout the community.
Figure 8.1: Local Reproduction of Entrepreneurial Culture in Waterloo

The experience of Ottawa shows that while a local entrepreneurial culture may be affected by an external crisis, in actuality it was the decisions made by individual actors about what types of practices make the most sense in the new economic or social context that generate this change rather than the crisis itself. Before the downturn in the telecommunications industry, the local entrepreneurial culture of Ottawa was supportive of risky entrepreneurial endeavors and helped legitimize the decisions of many workers to leave large organizations like Nortel to start their own software-based technology firms. This culture was supported by the actions of local organizations such as the National Research Council labs and corporations such as Mitel that encouraged spinoffs. The presence of the federal government further supported this entrepreneurial culture by providing opportunities for local firms through consulting and research contracts. The decline of the telecommunications industry and the subsequent collapse of Ottawa’s investment environment radically altered Ottawa’s entrepreneurial culture. The present culture is characterized by a reluctance to take on risks when starting and growing new software ventures. This culture affects entrepreneurs in different ways based on their habitus: lifestyle entrepreneurs reduced their risk by focusing on consulting with local clients such as the federal government while more growth-oriented entrepreneurs employed strategies such as SaaS models to allow for growth without the risk of taking on outside investments. It was these new
practices that led to the cultural transformation observed in the city over the past decade. Some of these new risk adverse practices were introduced by necessity, such as newly unemployed engineers becoming consultants as a way to remain in Ottawa while others adopted these practices in response to their desire to avoid the damage they observed in firms which had grown too large and took too many risks during the height of the telecommunications bubble.

As figure 8.2 shows, technology entrepreneurs adapted to the economic shock of the declining telecommunications industry and the collapse of local firms such as Nortel by developing risk-adverse views towards entrepreneurship. These outlooks were less focused on developing large, internationally competitive startups but instead were oriented towards the creation sustainable firms capable of supporting the founders’ future endeavors. These views became internalized in local entrepreneurs’ habitus and thus led to new types of practices (such as SaaS strategies) becoming normalized with in the local entrepreneurial community. As the firms started by entrepreneurs with this new outlook prospered, it helped redefine the local definition of entrepreneurial success. The stability of reoccurring revenues or a constant client base become more important than receiving venture capital or buyout offers. These new views of entrepreneurial success continued to legitimate risk-mitigating practices, which, in turn, reproduced and reinforced the new views of success when they help create sustainable technology companies. From this perspective, the cultural changes that have occurred within the region should not be seen as the outcome of an external shock but rather as the result of the new practices entrepreneurs employed in order to adapt to their new economic context.
Figure 8.2: Development of New Types of Entrepreneurial Practices in Ottawa

The profit-oriented practices of entrepreneurs in Calgary demonstrate how even when the attributes of a field are imported from an outside source (in this case, the US oil industry), they are still reproduced through local processes and can therefore be considered a local culture. The defining attribute of the local entrepreneurial culture is the priority placed on having startups produce a high level of profit for the founder. This aspect of the region’s culture appears to have been introduced through the presence US energy firms, but has spread throughout the region and influences entrepreneurs operating outside the energy sector. While Ottawa and Waterloo provided many examples of entrepreneurs who chose practices which reduced their firm’s immediate growth to either develop an advanced product or reduce the risks of failure, there were few examples of this in Calgary. Instead, entrepreneurs purposefully structured their firms to generate the most profit, even if this meant losing control of their startup or leaving entrepreneurship altogether.

The many successful examples of businesspeople in Calgary becoming rich through entrepreneurship have popularized the view that founding a firm is an ‘escalator’ to accumulating more economic capital than they could by working in the traditional labor market. These success stories highlighted the potential of entrepreneurship to produce the economic
capital which is so highly regarded in the community. Simultaneously, the value of the social status attached to being a technology entrepreneur is reduced by factors such as the reluctance of large oil companies to embrace new technologies and the unwillingness of many entrepreneurs and employees to dedicate their energy to building advanced technologies over more profitable activities such as consulting in the oil and gas sector. Given these constraints, entrepreneurs are more likely to choose practices that ensure their firms are capable of generating a great deal of economic capital, either directly through servicing the local oil industry or over a longer term by positioning their firm for a profitable acquisition by a larger competitor. As shown in Figure 8.3, this reinforces the primacy of economic capital within the community because the success stories legitimized profit-oriented practices and the importance of economic capital within the region’s entrepreneurial community. This logic has spread throughout the local field, influencing entrepreneurs both inside and outside the oil industry. In this sense, it has become an important part of the local culture, to the point where not structuring a firm to maximize economic capital is seen as an illegitimate act.

![Figure 8.3: Reproduction of Importance of Economic Capital in Calgary](image)

Each of these cases reinforces the main argument of this research: in order to understand the role of culture in the creation of unique regional economies it is important to uncover the mechanisms through which culture influences practice. This should be done in a way that does
not undermine the individual agency of actors to make their own decision while at the same time avoiding casting actors as atomistic agents free of outside influence or constraint. A Bourdieuan perspective on culture argues that practices emerge from actors’ understandings of the rules and norms within the fields they are operating in, with actors retaining a great deal of strategic freedom to improvise new practices based on their individual habitus and the forms of capital (social, economic or symbolic) they are most interested in accumulating. The field does not cause these practices to occur, but is instead creates a social context in which certain types of practices make the most sense to actors.

5. Policy Implications

Given the importance of technology-driven entrepreneurship for the development of growing and resilient economies, there is significant interest in how regions can foster supportive entrepreneurial environments. However this research has shown that government programs are often ineffective in creating or reproducing an entrepreneurial culture. This research provides two main suggestions for crafting effective government policies: a focus on the local context of entrepreneurship and long time horizons for policies. The history of entrepreneurship policies in Ottawa and Calgary illustrate the importance of adapting economic development programs to the attributes of the local field. The inability for organizations such as OCRI or Innovate Calgary to attract active participants speaks to their failure to fit into the norms of the local field. OCRI’s problems are most obvious: instead of reorganizing their technology entrepreneurship programs to meet the needs of the new generation of risk-adverse software entrepreneurs, the organization continued its focus on the shrinking telecommunications sector. OCRI has tried to promote entrepreneurial practices was no longer rational for the majority of entrepreneurs. Innovate Calgary faced a similar problem: its promotion of entrepreneurial networking and peer learning made less sense given the fact that most entrepreneurs in Calgary were more interested in generating economic capital rather than entrepreneurial know-how.

Given the difficulty these local organizations faced in customizing their programs to the needs of the local field, it stands to reason that entrepreneurship programs on the provincial or federal level will face even more challenges in crafting large scale policies that simultaneously fit into the local entrepreneurial contexts of dozens of regions. Such programs are necessarily very broad, such as tax credits for research and development or investment programs for a
particular industry. But because of this breadth it is difficult for these policies to meet the specific needs of a local community. For instance, programs designed to foster high-growth, high-tech entrepreneurship (such as the kind frequently found in Waterloo) not perform as well in places like Ottawa where that kind of entrepreneurship does not fit into the norms of the local field. The experience of Alberta’s attempts to foster technology entrepreneurship through organizations such as Innovate Calgary (which is administered in Edmonton) showed similar issues: the types of entrepreneurship these programs tried to promote did not fit into the structure of the local field and was therefore not very successful.

Second, the evolutionary process of norms and practices within fields points to the importance of long time horizons for entrepreneurship policies. While external shocks can rapidly change the nature of the local field, internal cultural change through targeted policies appear to take much longer. For instance, economic development officers in Waterloo believed that the region’s current entrepreneurial culture was created through several decades of policy intervention. However, as Huggins and Williams (2011) point out, entrepreneurship policies often fail because they are expected to generate substantial results within a short time frame in order to retain political support. If government programs are intended to shift a region’s entrepreneurial culture in order to create a more supportive environment, policy makers must realize such changes will only become apparent after years, if not decades, of work. This requires a great deal of political support that does not always exist. These policies or programs should strive to highlight successful entrepreneurs and encourage them to mentor younger startups in order to increase the visibility and social status of entrepreneurship.

The sociological work of Pierre Bourdieu has much to offer economic geography. His theories about the relationship between social structure and individual practice provide a way to study the heterogeneous landscape of the modern economy without relying on the casual determinism or generalization that has characterized much of the work in economic geography about the intersection between culture and economic activity. While a Bourdieuan approach may add conceptual and empirical complexity to research, the advantages of placing culture into a well-defined framework that explicitly links it with practice outweigh the challenges. This approach provides an effective path for the analysis of the emergence of regional cultures, their local reproduction and their influence on a broad array of entrepreneurial practices.


National Energy Board. 2012. “Estimated Production of Canadian Crude Oil and Equivalent.”


