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The Coevolution of Technology Firms and Founders

Abstract

Prior research cannot explain the surprising fact that some technology firms attain spectacular growth with seemingly inexperienced founders at the helm. Informed by a cognitivist perspective, prior research in entrepreneurship explores founders' epistemology, such as knowledge and skills, and investigates their interaction with firms to explain their influence on firm growth. This framing misses the reciprocal influence between firm growth and founder development. In contrast, informed by a sociocultural perspective, my research investigates the founder's ontology and the mutual constitution of the founder and the firm. My research draws on practice theory and uses habitus as a sensitizing concept. I build a theory that explains how the dispositional toolkit of a founder evolves with, and contributes to, firm growth. Based on three in-depth case studies of technology companies, I show how technology firms and their founders coevolved. These firms influenced the development of their founders when they used founders as resources in different aspects of business and placed them in changing relationships with others. In turn, tech founders influenced the growth trajectory of their firms when they performed day-to-day practices of business. My grounded theory suggests that founders and firms coevolve in a mutually constitutive relationship. Firm growth changes the conditions under which business practices occur. The founder develops by becoming the resource the changing contexts demand. Furthermore, a growing firm deposits new dispositions in the founder. In practice, situational cues activate a specific disposition, regulating how the founder improvises. The founder's improvisation in turn influences firm growth. My study advances entrepreneurship research, accounting for structural influences as well as human agency, thus contributing to a previously missing understanding of the coevolution of founders and firms. My study also contributes to practice by producing insights into founder development and firm growth that are relevant for entrepreneurs, board members, and educators.

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THE COEVOLUTION OF TECHNOLOGY FIRMS AND FOUNDERS

Vikas Vasudeo Joshi

A DISSERTATION

in

Penn Chief Learning Officer

Presented to the Faculties of the University of Pennsylvania

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THE COEVOLUTION OF TECHNOLOGY FIRMS AND FOUNDERS

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DEDICATION

Dedicated to all the educational institutions that I have been part of during the learning journey that this dissertation represents: University of Pennsylvania, Harvard Business School, Syracuse University, Indian Institute of Technology (Bombay), New College (Kolhapur), Private High School (Kolhapur), Pethe Vidyalay (Nasik), Firodiya High School (Ahmednagar), Modern High School (Shrirampur), Dravid High School (Wai), Mahila Sneha Samvardhak Samaj Vidya Mandir (Wai), and Navin Marathi Shala (Islampur).

And to Harbinger Group, the business to which I belong, the crucible for ongoing learning.

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Finally, I am grateful to my family and friends for their unwavering support in this endeavor.

ABSTRACT

THE COEVOLUTION OF TECHNOLOGY FIRMS AND FOUNDERS

Vikas Vasudeo Joshi

Alexandra Michel

Prior research cannot explain the surprising fact that some technology firms attain spectacular growth with seemingly inexperienced founders at the helm. Informed by a cognitivist perspective, prior research in entrepreneurship explores founders' epistemology, such as knowledge and skills, and investigates their interaction with firms to explain their influence on firm growth. This framing misses the reciprocal influence between firm growth and founder development. In contrast, informed by a sociocultural perspective, my research investigates the founder's ontology and the mutual constitution of the founder and the firm. My research draws on practice theory and uses habitus as a sensitizing concept. I build a theory that explains how the dispositional toolkit of a founder evolves with, and contributes to, firm growth. Based on three in-depth case studies of technology companies, I show how technology firms and their founders coevolved. These firms influenced the development of their founders when they used founders as resources in different aspects of business and placed them in changing relationships with others. In turn, tech founders influenced the growth trajectory of their firms when they performed day-to-day practices of business. My grounded theory suggests that founders and firms coevolve in a mutually constitutive relationship. Firm growth changes the conditions under which business practices occur. The founder develops by becoming the resource the changing contexts demand. Furthermore, a

growing firm deposits new dispositions in the founder. In practice, situational cues activate a specific disposition, regulating how the founder improvises. The founder's improvisation in turn influences firm growth. My study advances entrepreneurship research, accounting for structural influences as well as human agency, thus contributing to a previously missing understanding of the coevolution of founders and firms. My study also contributes to practice by producing insights into founder development and firm growth that are relevant for entrepreneurs, board members, and educators.

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TABLE OF CONTENTS

DEDICATION.....	iii
ACKNOWLEDGMENTS	iv
ABSTRACT.....	v
LIST OF TABLES	xi
LIST OF ILLUSTRATIONS	xii
Chapter 1: INTRODUCTION.....	1
Problem Statement	2
Purpose of the Study.....	4
Relevance of the Study	4
Alternative Explanations, Limitations and Delimitations.....	6
Alternative Explanations.....	6
Limitations	9
Delimitations.....	9
Organization of the Study	9
Chapter 2: THEORETICAL BACKGROUND.....	11
Theories of Human Development.....	11
The Cognitive Perspective and Interaction	12
The Sociocultural Perspective and Mutual Constitution.....	13
Contributions and Gaps in Prior Research	15
Entrepreneurial Leadership.....	16
Entrepreneurial Learning	21
Organizational Socialization	23
Entrepreneurial Firm Growth.....	25
Theoretical Framework.....	26
Habitus	28
Practice	30
Research Questions.....	31

Chapter 3: RESEARCH METHODOLOGY.....	32
Research Design	33
Stages of the Study	35
Use of Comparison	36
Unit of Analysis	36
Site Selection and Participants	37
Sampling Strategy	38
Sampling Time Period Determination	41
Personal Background	43
Data Collection Methods	44
Autoethnography	45
Founder Interviews	51
Focal Individual Interviews	54
Archival Document Study.....	54
Memos	55
Timeline of Events.....	55
Data Analysis.....	56
First Cycle Coding	57
Second Cycle Coding.....	58
Jotting	59
Within-case Analysis	60
Memos	61
Cross-case Analysis	61
Limitations and Validity Discussion	62
Chapter 4: FINDINGS	65
Finding 1. Founder Development Influenced by Firm	66
The Firm Used the Founder as a Context-Specific Resource	66
The Firm Placed the Founder in Changing Relationships with Others	74
Finding 2. Firm Growth Influenced by the Founder	83
Founders' Improvisations Influenced Firm Growth.....	84
Founders' Habitus Shaped Their Improvisations.....	90
Founders Improvised Differently as Dispositions Evolved	96

Finding 3. Mutual Constitution of Founder and Firm	100
Simultaneous Mutual Constitution: Discovery of Product-Market Fit	101
Mutual Constitution over Time: Founder-Led Human Resourcing	110
Findings Summary.....	120
Chapter 5: IMPLICATIONS AND CONCLUSION.....	122
A Grounded Theory Model of Founder-Firm Coevolution	122
The Influence of Firm on Founder Development	123
The Influence of Founder on Firm Growth.....	125
The Coevolution of Founders and Firms in Practice	126
Contributions to Theory.....	127
Founder-firm Coevolution	128
Founder Development as Contextually Influenced.....	130
Founder Influence on Firm Growth	132
Reframing of Entrepreneurial Leadership Using the Practice Lens.....	134
A Developmental Perspective on Habitus.....	136
Polyvocality in Organizational Studies through Autoethnography.....	138
Implications for Practice	139
Insights for Entrepreneurs.....	139
A New Perspective for Board Members	140
Ideas for Entrepreneurship Education	141
Limitations.....	142
Researcher Limitations	142
Data Collection Limitations	143
Methodological Limitations.....	144
Model Limitations.....	145
Directions for Future Research	145
Conclusion	147
Appendix A: Site Consent	149
Appendix B: Participant Consent.....	151
Appendix C: Linking Methods and Questions.....	153

Appendix D: Founder Interview Protocol	154
Appendix E: Interview Questions Mapped to Theory.....	156
Appendix F: Interview Mapped to Research Questions	158
Appendix G: Timeline of Procedures.....	159
REFERENCE LIST.....	160

LIST OF TABLES

Table C1: A Matrix Mapping Research Questions and Methods	153
Table E1: Mapping of Interview Questions with Theoretical Concepts in the Literature	156
Table F1: A Grouping of Interview Questions under Each Research Question	158
Table G1: A Timeline of Procedures	159

LIST OF ILLUSTRATIONS

Figure 3.1. Two-stage case study design based on autoethnography and interviews.....	34
Figure 3.2. Autoethnography: Data collection plan.....	47
Figure 3.3. Autoethnography: Sources of contextual data (names are fictitious).....	50
Figure 5.1. A process model for tech founder-firm coevolution.	122

Chapter 1: INTRODUCTION

One paradoxical phenomenon that repeats itself in technology entrepreneurship is that in spite of limited prior leadership experience, an individual not only starts a high-growth business but also continues leading it to major success. In addition to the rapid changes associated with a growing business, the entrepreneur must cope with the technology industry that is also rapidly changing, as the industry continues to provide innovation in the areas of software, telecommunications, electronic hardware, and biotechnology.

Entrepreneurship is the process by which individuals—either on their own or inside organizations—pursue opportunities without regard to the resources they currently control (Stevenson, Roberts, & Grousbeck, 1989). Entrepreneurship can manifest itself in unique ways in the technology industry. Founders—individuals that start companies—sometimes become celebrities, as did Mark Zuckerberg, the founder of Facebook; Bill Gates, the founder of Microsoft; and Steve Jobs, the founder of Apple. The scale of their success is legendary: Facebook surpassed 1.5 billion monthly active users (Statista, 2015); Microsoft’s operating systems ran on over 90% of the world’s desktop computers (Linshi, 2015); and Apple became the most valuable company in the world, having surpassed Exxon on August 10, 2011 (Satarinao, 2011). Interestingly, at the time of venturing, Zuckerberg was 20 years old, Gates had not yet completed his junior year at Harvard, and Steve Jobs’ tenure at Atari Corporation as a designer was just enough to fund his pilgrimage to India (Encyclopaedia Britannica, 2014, 2015; Levy, 2015). What makes this puzzling to lay persons and scholars alike is how these inexperienced founders

with minimal business leadership knowledge and skill eventually lead their firms to such heights of success.

Problem Statement

Four separate bodies of literature address parts of this paradox of spectacular firm success despite an inexperienced founder at the helm: (1) entrepreneurial leadership, (2) entrepreneurial learning, (3) organizational socialization, and (4) entrepreneurial firm growth. However, they do not explain the paradox completely. This section highlights three limiting assumptions that prevent prior research from addressing the core of the paradox. First, prior entrepreneurship research is dominated by the implicit assumption that a leader's pre-existing concepts, competencies, and knowledge are responsible for firm success. This assumption underpins scholarly views such as (1) entrepreneurial leaders imprint their concepts on the firm (e.g., Fauchart & Gruber, 2011); (2) a set of distinct competencies allow entrepreneurs to succeed (e.g., Gupta, MacMillan, & Surie, 2004); and (3) founders gain relevant knowledge from their previous employer (Sorensen & Fassiotto, 2011). The examples of tech firms cited above challenge this assumption, because they were all founded by people with limited business experience prior to starting their highly successful ventures. Second, the socialization research (e.g., Feldman, 1976; Van Maanen & Schein, 1979) implicitly assumes the existence of a pre-formed organization into which a newcomer is absorbed. This is not the case with startup firms that start from an idea and grow into large organizations. Third, developmental models of firm growth (e.g., Kazanjian & Drazin, 1990; Quinn & Cameron, 1983) implicitly assume that synoptic accounts of growth—accounts focused on the difference

between two stages—are adequate. However, these models lack a focus on situated human agency unfolding in time. Therefore they miss the advent of the growth phenomenon itself and the founder’s relationship to it, both of which are crucial to understanding the actual emergence and accomplishment of growth.

Given that the founder’s prior experience does not necessarily explain the success of the business, what does? An alternative explanation holds that the founder develops these skills somehow over time. One possible way in which this could happen is that the business also teaches the founder as opposed to the founder only influencing the business, as scholars and laypersons tend to assume. Furthermore, what is a good way to explain the growth trajectory of a firm that so evidently could not be imagined by the inexperienced founder at the inception, but instead builds up over time? Again, one possible explanation is that the growth trajectory is the result of day-to-day activities of business to which the developing founder increasingly contributes rather than a premeditated visionary plan that is commonly attributed to the leader. Stated differently, the founder and the firm continue to have an interdependent developmental relationship beyond start-up (Cope, 2005). For example, the founder may add an industry expert to the board—an action that develops the firm’s governance structure—and the board member might in turn point out a key blind spot in the founder’s strategy—an action that develops the founder’s concepts. A broader question would then be: How do founder development and firm growth unfold in interdependent ways over the lifetime of a firm? These questions suggested a need for studying the processes underlying the development of technology company founders as their firms grow.

Purpose of the Study

The purpose of this research was to use an in-depth qualitative multi-case study to build a grounded theory model that explains how founders and their tech firms evolve together. This study examined the lifetimes of three firms—including the researcher’s own tech company—and collected data using multiple sources, including autoethnography, founder interviews, focal individual interviews, and archival study. A theoretical framework based on practice theories and sociocultural learning informed the study. By using a combination of emic and etic categories that are regarded as meaningful and appropriate by the informants and researchers respectively, I performed thematic analysis on the qualitative data set. Subsequent cross-case analysis led to the emergence of a grounded theory model. I articulate the research questions informing this study after developing a theoretical background in Chapter 2.

Relevance of the Study

What makes tech firms and founders so theoretically interesting? The stories above are representative of a broader phenomenon in the technology industry: people with limited prior leadership experience found and continue to lead successful businesses. Rapid growth makes the technology firm a particularly interesting setting in which to study founder development, because the challenge of adapting to the organization’s changing needs is even greater. As Hathaway (2013) stated in a Kaufman Foundation report, “though they start small, young high-tech and ICT firms tend to grow especially rapidly in the early years” (p. 16). Founders who are technologists—individuals with great technical expertise, but lacking leadership skills—are interesting to study because

their apparent makeover into the CEOs their firms need represents an extreme case or a natural experiment. For investigating how entrepreneurs learn to lead while in business, tech founders are a good experimental group because many of them so evidently lack business experience.

In developing themselves, founders face unique challenges. According to Leitch, McMullan, and Harrison (2013), the attenuated leadership and management structures within the entrepreneurial business provide a context for the enactment of leadership but not for its full development. As observed by Kempster and Cope (2010), the entrepreneurial situation is characterized by a low salience of leadership, a limited variety of people to observe and with whom to interact, and a limited variety of roles to enact and in which to participate, which together limit the development of leadership practice. This makes it even more astounding that these founders lead their ventures to become so successful.

From a practitioner perspective, why is the study of tech founders significant? Vibrant technology entrepreneurship is crucial to economic growth. Although a large number of tech startups are formed every year, only a fraction of founders continue to grow their firms to achieve long-term success (Hathaway, 2013). Thus, there exists an unmet need to help practitioners—including entrepreneurs, board members, and educators—become more effective by equipping them with a better understanding of entrepreneurship in tech firms. This study was motivated by its practical relevance.

Alternative Explanations, Limitations and Delimitations

Before proceeding with the study, it is important to consider and rule out potential alternative explanations that may resolve the paradox. This section discusses alternative explanations. This section also acknowledges the limitations of the study and outlines the boundaries of its scope and intent by describing the delimitations.

Alternative Explanations

This section presents three alternative explanations for the success of technology ventures founded by inexperienced founders. These explanations are based on asking: Could it be that leadership does not matter at all? At a minimum, could it be that the concept of leadership has been elevated to an unwarranted level of significance? Leadership scholars have questioned the importance of leadership using several different arguments. In this section, I examine three perspectives in the leadership literature and explain why they are less likely explanations than the one this study investigates further.

Substitutes for leadership. The “substitutes for leadership” perspective (Kerr & Jermier, 1978) holds that “certain individual, task, and organizational variables act as substitutes for leadership” (p. 375), negating the leader’s ability to influence team members’ attitudes and effectiveness. For example, clear goals, structure, and detailed work processes of established firms substitute for leadership partly or wholly, because managers in such situations could be thought of as simply following routines. However, many of the substitutes that impede leadership in large organizations are less prevalent in new ventures (Ensley, Pearce, & Hmieleski, 2006). For example, the venture’s goals may change, evolve over time, or get formed by chance (Fisher, 2012); the venture may have

little, if any, organizational structure (Quinn & Cameron, 1983); and the venture's work processes need to be flexible in order to nurture innovation (Quinn, 1985). As the leader is clearly in a position to influence outcomes when other potential sources of guidance and good feelings are deficient (Kerr & Jermier, 1978), it follows that goals, structures, and processes do not substitute for leaders in new technology ventures. Of course, there may be other substitutes, such as the drive of the employees. It could be argued that many knowledge workers who join startups are extremely driven and smart. They may not need direction. They might be able to better figure things out for themselves as compared to individuals in bureaucratic firms. This highly salient alternative explanation could not be ruled out theoretically and needed to be investigated empirically.

Romance of leadership. The “romance of leadership” perspective (Meindl, Sanford, & Dukerich, 1985) describes leadership as a social construction created by followers out of their psychological need to make sense of complex organizational phenomena. According to this perspective, during times of negative or positive swings, when stressed or excited, followers experience a high level of collective arousal and imbue the leader with charisma (Uhl-Bien, Riggio, Lowe, & Carsten, 2014). In this way, people over-attribute responsibility for company performance to leaders. The romanticized leader results from the follower's preference “to understand important but causally indeterminant [sic] and ambiguous organizational events and occurrences” (Meindl et al., 1985, p. 80). However, given the small size of the entrepreneurial venture and the simplicity of its organization structure, it is questionable whether organizational events and occurrences place such a high cognitive demand on the followers that they

would need over-attribution in order to make sense of them. That being said, it is not impossible for followers to engage in over-attribution if the complexity in the market environment, for example, strains their cognitive demands. Therefore, this too needed to be investigated empirically.

Constraints on leadership. The “constraints school” argues that leaders are too ruled by their constraints to affect performance of companies—a view in stark contrast to the “leadership school” that claims that leaders have a significant impact on company performance (Wasserman, Nohria, & Anand, 2001). According to proponents of the “constraints school,” both internal and external factors impose constraints on the leaders, limiting their impact on company performance. Internal factors include internal politics, existing control systems, organizational norms, and previous investments in fixed assets. In the entrepreneurial firm, however, these factors are unlikely to constrain the founder in ways they might constrain a CEO in an established firm. For example, politics are insignificant at startup (Gray & Ariss, 1985); control systems only develop over time (Quinn & Cameron, 1983); and culture is created by founders themselves by embedding values or assumptions they hold (Schein, 1983).

External factors include competitive pressures and barriers to exit and entry in the industry in which the firm operates. However, research further shows that the effect a CEO has on company performance is significant under conditions of perceived environmental uncertainty (Waldman, Ramírez, House, & Puranam, 2001) or when market opportunities are scarce (Wasserman et al., 2001). Both of these conditions characterize the external environment of technology ventures, which is full of

unpredictable and rapid change. The “constraints school” also argues that CEO effects are limited because a great deal of homogeneity prevails across CEOs due to career ladders and institutionally-specified selection processes, which filter out idiosyncratic individuals (Pfeffer, 1977). This would mean that idiosyncratic views, which could potentially shape leaders’ uniquely different actions, may be absent. However, the salience of such filtering processes is limited in the case of founder-CEOs. In sum, the “constraints school,” which questions the relevance of leaders, has limited applicability to founders of technology ventures.

Limitations

I have identified four types of limitations of this study. These include researcher limitations, data collection limitations, methodological limitations, and model limitations. These limitations are discussed in detail in Chapter 5.

Delimitations

The study was exploratory with a goal of building grounded theory. It was based on three case studies and does not claim generalizable findings. Instead, this study expects its findings to be treated as propositions for further research focused on theory testing with large samples.

Organization of the Study

This section is a brief overview of the organization of this dissertation. Chapter 2 starts by introducing broad theoretical frames that represent the cognitive and

sociocultural perspectives on human development. This introduction leads to a review of the contributions and limitations of prior research on entrepreneurial leadership, entrepreneurial learning, organizational socialization, and entrepreneurial firm growth. Rejecting the dominant cognitive framing of extant research, this chapter presents an alternative theoretical framework based on sociocultural theories. Chapter 2 concludes by framing the research questions foundational to this study.

Chapter 3 describes the methodology of this study in detail. Starting with a rationale for the methodological choices I made, it outlines the multi-case research design. It then justifies the sequence of cases and the unit of analysis. Subsequent sections discuss site and participant selection, time sampling, researcher background, data collection and data analysis methods. As autoethnography and founder interviews are pivotal to this research, these topics are discussed at length. Chapter 3 concludes with a validity discussion.

Chapter 4 presents and elaborates the findings of the study. I discuss each finding, starting with the research question it addresses, and then present the key themes that emerged, cite evidence for each theme, and offer its interpretation.

Chapter 5 presents a grounded theory model derived from the data, followed by a discussion of the model. It then reviews the implications of this research for theory, practice, and further research. It outlines the limitations of the study. This chapter ends with a short conclusion that summarizes the findings of this study and their importance.

Chapter 2: THEORETICAL BACKGROUND

Proceeding under the assumption that founder leadership is not superfluous in the technology industry, it follows that at least some tech founders develop leadership—construed by scholars as the ability to influence others toward a goal (e.g., Hunt, 2004)—in the course of the venture. Therefore, I review theories of human development in an organizational context. This chapter starts by contrasting the cognitive and sociocultural approaches to human development. It then explores the contributions and gaps in various streams of prior research in entrepreneurship and organization science that use these approaches and examines their relevance in accounting for the paradoxical phenomenon of concern to this study. The rapid growth of entrepreneurial tech firms results in a varying organizational context that may influence the development of founders in changing ways over time. Therefore, this chapter also reviews research on firm growth. This chapter then introduces a theoretical framework comprising sensitizing concepts from practice theory and concludes by framing the research questions.

Theories of Human Development

Cognitive and sociocultural theories provide two different perspectives on the relationship between person, context, and development. The cognitive perspective (Piaget & Inhelder, 1969) is based on the working of the mind and holds that people actively make sense of the environment by developing mental models (Wortham, 2003). The sociocultural perspective holds that learning is embedded in social and cultural contexts and manifests itself as a form of participation in those contexts (Boreham & Morgan, 2004; Vygotsky, 1978). Both theories provide different frameworks for analyzing human

development in an organizational context. This section reviews two frameworks: one construes the person-context relationship cognitively as interaction, and the other construes the person-context relationship socioculturally as mutual constitution.

The Cognitive Perspective and Interaction

The cognitive perspective dominates much of the research in entrepreneurship. Cognitive theories construe a person as being analytically separate from the context. Therefore, cognitivists studying entrepreneurial leadership tend to focus on attributes of individuals such as traits (e.g., Sexton & Bowman, 1985) and competencies (e.g., Swiercz & Lydon, 2002). Given their epistemological preference, cognitivists need additional ways to build explanations of contextual factors in leadership. They conceptualize the relationship between person and context as interaction, which allows them to treat person and context as analytically separate, so that properties of each could be examined independently of the other (Michel, 2014). Thus, researchers interested in exploring the relationship between the entrepreneur and the venture might study, for example, what entrepreneurial attributes drive venture growth (e.g., Baum & Locke, 2004), or how venture performance affects entrepreneurial careers (e.g., Jayaraman, Khorana, Nelling, & Covin, 2000). However, such research does not explain intertemporality—the way phenomena unfold over time. To the cognitivist, addressing the time dimension of people-context relationships has little relevance unless the research question demands investigation of longitudinal phenomena—as in a socialization study or a developmental study. Cognitive psychology’s dualism—treating person and context as independent entities—also makes cognitivists regard resources as fixed entities that are

independent of their use. Together, these assumptions limit the ability of cognitive work to explain the paradox of spectacular firm growth despite an inexperienced founder at the helm.

The Sociocultural Perspective and Mutual Constitution

In contrast to a cognitivist, the sociocultural theorist must construe person and context in terms of each other. Therefore, a person is not analytically separate from context. A sociocultural theorist studying an entrepreneurial leader will pay attention to the context and therefore broaden the unit of analysis to include contextual elements. Such a study might investigate, for example, how entrepreneurs become more competent participants in their industry (e.g., Rae, 2006). Similarly, a sociocultural study focused on the relationship between entrepreneurs and ventures might investigate the elements individuals contribute to action in a venture and the way ventures facilitate or constrain this process (e.g., Garud & Karnøe, 2003). This is important because—unlike cognitive research—such a study explains how structures present in organizations inform the individual's actions and how the individual's daily actions maintain or modify structures. The cognitive and sociocultural perspectives also differ in the way they treat the time dimension of the people-context relationship. Because the sociocultural perspective emphasizes seeing how things evolve to better understand them, the time dimension of the person-context relationship is a focal concern in research. Research questions framed using a sociocultural approach imply temporality, and findings unveil intertemporal aspects of the phenomena under investigation.

Having conceptualized the person in a fundamentally different way, the sociocultural theorist can construe the person-context relationship as one of mutual constitution. Mutual constitution states that certain phenomena, such as person and context, exist in relation to each other (Feldman & Orlikowski, 2011). As illustrated in Escher's famous lithograph "Drawing Hands," in which the left hand is shown drawing the right hand, and vice versa, "relations of mutual constitution produce the very system of which they are a part" (Feldman & Orlikowski, 2011, p. 1242). Mutual constitution implies that a person and that person's social world are internally related to one another. According to Packer and Goicoechea (2000), in the practical process of mutual constitution, people shape the social world and are themselves transformed in doing so. Thus, structural conditions shape agency and agency influences structural conditions in mutually constitutive ways (Feldman & Orlikowski, 2011). The mutual constitution framework is important to this study because it helps explore the reciprocal influence of founders and firms on each other. Furthermore, in a mutual constitution view, a resource is not a fixed entity, but is instead a "mutable source of energy" (Feldman, 2004, p. 295). According to Feldman and Orlikowski (2011), "It is the combination of thing and use that makes a resource" (p.1246). This conceptual frame allows further theorizing about founders in changing contexts.

Although the cognitive perspective has traditionally dominated entrepreneurship research, some recent studies have sought to explain the inherently processual character of entrepreneurship by adopting a sociocultural perspective (e.g., Anderson, Dodd, & Jack, 2010; Garud & Karnøe, 2003; Keating, Geiger, McLoughlin, & Cunningham, 2014;

Terjesen & Elam, 2009). For example, De Clerq & Voronov (2009) studied new entrepreneurs to show that the social context in which entrepreneurship takes place brings about two paradoxical demands: the need for newcomers to simultaneously ‘fit in’ and ‘stand out’ in the field to gain legitimacy in the eyes of dominant players. Although a sociocultural account of entrepreneurship has the potential to explain the tech founder’s development, much work in the field does not go far enough in the direction of exploring the interdependent developmental relationship between the founder and the firm. As the next section will show, although some sociocultural work pays attention to context, it often sees context as something the individual acts upon, not as something in terms of which the individual is defined. By continuing to treat the individual as a unit of analysis, sociocultural work in entrepreneurship unintentionally reifies the person, missing the insights available from mutual constitution.

Contributions and Gaps in Prior Research

The conversation triggered by the paradox involving the success of tech founders with limited prior experience can be positioned in the research streams of entrepreneurial leadership, entrepreneurial learning, organizational socialization, and entrepreneurial firm growth. As the rest of this section will show, although each of these bodies of literature is relevant to this study, each illuminates only a part of the focal phenomenon. The cognitive underpinnings of these research streams result in treating the founder and the firm as entities that are analyzed independent of each other, leading to under-theorizing either human development or firm growth.

This section starts with a discussion of prior research on entrepreneurial leadership. Implications of the focus this research has on the individual founder's characteristics and behaviors are examined in light of the process of leadership development in the context of firm growth. Next, this section reviews the theories of entrepreneurial learning—on which leadership development research builds—and evaluates their ability to account for the influence of the firm on how founders learn. The section then examines studies in organizational socialization as a stream of research that explains the influence of organizations on human development over time. This discussion includes implications of the assumptions that organizational socialization researchers make about the existence of a pre-formed organization in light of the entrepreneurial situation, which is characterized by the development and growth of a firm from inception. This section concludes with an examination of the entrepreneurial firm growth literature, which studies firm development in stages over time, with a view to explore if the theorization of stages of growth in this literature ties back to leadership development and growth.

Entrepreneurial Leadership

Existing work on entrepreneurial leadership is extensive. This section introduces the construct of entrepreneurial leadership. It explores three streams of research relevant to this construct— traits, competencies, and firm performance—to show that prior literature does not provide a satisfactory account of the development of technology company founders. This is an important gap in entrepreneurship research, given that the

entrepreneurial individual has long been a focal domain in entrepreneurship research (Busenitz & West, 2003; Shane & Venkataraman, 2000).

Some scholars think of entrepreneurial leadership merely as leadership in entrepreneurial contexts, which denies entrepreneurial leadership a separate status outside the broader area of leadership (Vecchio, 2003). Challenging this view, other scholars argue that entrepreneurial leadership is characterized by unique attributes (Gupta, MacMillan, & Surie, 2004; Kempster & Cope, 2010; Wasserman, 2003). For example, Gupta and co-authors argue that “in the increasingly turbulent and competitive environment business firms face today, a type of ‘entrepreneurial’ leader distinct from other behavioral forms of leadership is required” (Gupta et al., 2004, p.241). Gupta and co-authors defined entrepreneurial leadership as “leadership that creates visionary scenarios that are used to assemble and mobilize a ‘supporting cast’ of participants who become committed by the vision to the discovery and exploitation of strategic value creation” (Gupta et al., 2004, p.242). Defined this way, entrepreneurial leadership involves (1) scenario enactment to identify opportunities, and (2) cast enactment to configure resources to pursue the opportunities (Koryak et al., 2015). Scholars justify entrepreneurial leadership as a core construct because it implies novel properties that are not apparent in either component studied separately (Bagheri & Pihie, 2011). All of this work on entrepreneurial leadership theories shares some of leadership literature’s fundamental assumptions: (1) leaders as individuals are an independent entity, and therefore analytically separate from context; and (2) leadership entails influencing others toward a goal. These assumptions limit the ability of entrepreneurial leadership research

to account for contextual factors in explaining founder development, as the next sections will show.

Traits. Early work on entrepreneurship shows striking parallels with the theoretical domain of leadership that is dominated by the study of traits—stable distinguishing features—leading to an individualistic conceptualization of heroic leaders (Bagheri & Pihie, 2011; Cogliser & Brigham, 2004). From the mid-1960s to the 1980s, the emphasis of entrepreneurship research was on what type of individuals entrepreneurs are—the traits view. This perspective held that special types of individuals create entrepreneurship (Thornton, 1999). The traits literature examined psychological dispositions such as risk-taking propensity, need for achievement, need for autonomy, self-efficacy, and locus of control (Sexton & Bowman, 1985) as well as social factors such as culture, ethnicity, and social class that characterize entrepreneurs (Thornton, 1999).

The traits perspective, however, runs counter to studies that show that "the level of 'entrepreneurship,' however defined, often varies across the life of an individual, or even across the different activities of an individual at a given moment" (Stevenson & Jarillo, 1990, p. 23). Gartner (1985) argued that there are many different types of entrepreneurs, and the actions they take vary widely, precluding a simple generalization. Gartner's (1985) work took the new venture creation enquiry beyond the traits of entrepreneur into the organizations, the environment and the process of starting up. Low, MacMillan, Murray, and Ian (1988) also refuted the notion that entrepreneurs possess unique traits that somehow make them different from the rest of the population. One flaw

that afflicts the traits perspective may be that it makes entrepreneurship too much a function of individuals and neglects the role of external structural influences (Thornton, 1999). The traits perspective poses a problem because it presumes that a founder's fixed attributes explain entrepreneurial activity and therefore precludes any change with time or external influence.

Competencies. Some scholars approached entrepreneurial leadership from a competency perspective. According to Boyatzis (2008), competencies are "a set of related but different sets of behavior organized around an underlying construct" (p. 6), which he calls the intent. Examples of leadership competencies include thought leadership (strategy, judgment, business knowledge, planning, and execution), results leadership (motivation and courage), people leadership (leadership and influence, interpersonal, and communications), and self-leadership (self-management).

Research in entrepreneurial leadership competencies is based on the premise that entrepreneurs must develop specific competencies that enable them to form a new venture and lead its successful growth (Gupta et al., 2004). Swiercz and Lydon (2002) studied technology entrepreneurs and proposed a model of competencies of career entrepreneurs, whom they defined as individuals who initiate, develop, and manage entrepreneurial organizations from start-up to an ongoing enterprise. Their research revealed specific functional competencies and self-competencies that entrepreneurs need. Other scholars enumerated pro-activeness, innovativeness, and risk taking as specific personal competencies of entrepreneurial leaders (Bagheri & Pihie, 2011; Gupta et al., 2004). Although this body of research reveals what competencies entrepreneurial leaders

must have, it does little to explain what causes such competencies to come about, much less so in the context of firm growth.

Firm performance. Although some studies explore the link between leadership and firm performance, these studies focus on causal relationships between the two, sidelining the processes by which the founder and the firm evolve together over time. For example, the literature on founder-CEO succession explains how firm growth milestones are related to founder-CEO succession events (e.g., Jayaraman et al., 2000). However, these snap-shot studies—designed to produce generalizable findings—neglect the processes underlying the development of technology company founders over time. Moreover, the logic of explaining the causal relationship between the founder’s prior experience and the venture performance (e.g., Sapienza & Grimm, 1997) is criticized because it is hard to isolate the influence of a single factor such as founder knowledge on the ultimate venture performance (Politis, 2005). Also, research that solely focuses on the founder’s prior knowledge doesn’t allow for contribution of new knowledge developed during the course of venture growth.

Although the extant scholarship on entrepreneurial leadership pays attention to human capital, it has developed an under-socialized understanding of the entrepreneurial leader by neglecting the contextual influences. By explicitly addressing contextual influences on the entrepreneurial leader, this study advances the research on entrepreneurial leadership development.

Entrepreneurial Learning

Research on entrepreneurial learning provides a foundation to understand entrepreneurial leadership development. This section discusses frameworks and studies in entrepreneurial learning and evaluates the extent to which they are adequate in accounting for how the growing firm influences entrepreneurial learning.

Frameworks. Politis (2005) presented a conceptual framework that explains the process of entrepreneurial learning. Politis' (2005) framework explains that entrepreneurs learn to recognize opportunities, act on them, and cope with the liabilities of newness. This framework is based on experiential learning, "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p.38). The cognitive underpinnings of this framework are evident from how it describes learning in terms of refining mental models of the world as new situations are encountered (Wortham, 2003). Holcomb and co-authors (2009) described entrepreneurial learning in both direct and vicarious learning contexts. In the direct learning context, new knowledge is assimilated through "the transformation of experience," (Kolb, p. 34) leading to experiential learning. Observing others and modeling their behaviors and actions leads to vicarious learning, also called observational learning (Holcomb et al., 2009). Although these cognitive frameworks do explain the way entrepreneurs make sense of their environment, they do not help in understanding how the context of the organization plays a part in that process.

Studies. Kempster and Cope's (2010) study of nine entrepreneurs' lived experiences of learning to lead demonstrated that the learning processes and pathways of entrepreneurs differ significantly from employed managers. They conceptualized the

informal and situated nature of leadership learning among entrepreneurs and showed that facilitating mechanisms such as peer networks not only raise the salience of leadership but also improve the entrepreneur's access to peers while building his or her leadership capabilities. Rae (2006) collected and interpreted narratives of ten emergent entrepreneurs in technology-based enterprises. Using a social constructionist approach, Rae developed an understanding of the entrepreneurial experience and proposed three themes of entrepreneurial learning: (1) personal and social emergence, which leads to an entrepreneurial identity; (2) contextual learning, which leads to practical theories of action; and (3) the negotiated enterprise, involving participation, shared understanding and networking, which leads to the formation and growth of the venture. My work seeks to go beyond the individual and cognitive conceptualization of learning by drawing on a sociocultural perspective.

Analysis. The frameworks described above invite an analysis of entrepreneurial learning, and the studies mentioned above add to our understanding of entrepreneurial learning. However, this work in entrepreneurial learning, regardless of the theoretical approach that underpins it—cognitive or sociocultural—does not take into account the growth of the venture. By not using company growth as a context for examining how founders develop and grow, the extant literature on entrepreneurial learning has left an important gap in our understanding of founder growth. Founder development must be understood in the context of company growth, because much of the learning by entrepreneurs is rooted in their experience of running the business. In addition, the nature of the business itself changes substantially with growth, as is borne out by the literature

on the stages of growth (Gray & Ariss, 1985; Kazanjian, 1988; Quinn & Cameron, 1983). For a more comprehensive model of founder development, it is necessary to carefully incorporate both process issues and contextual factors.

A promising work in this direction was by Karatas-Ozkan (2011), who presented a multilayered examination of the learning processes prevalent in a team of six nascent entrepreneurs while they formed a multimedia design and production company. Adopting a social constructionist stance and using an inductive approach, Karatas-Ozkan investigated the learning processes used by the entrepreneurs, including individual experiences and teams that they formed as a part of their entrepreneurial becoming. Karatas-Ozkan found that entrepreneurial learning and becoming are inter-related and situated processes. Although the scope of that study was limited to nascent entrepreneurs, an opportunity exists to extend it into a longitudinal study of career entrepreneurs and to apply it in the technology industry.

Given that theories of entrepreneurial learning, on which leadership development research builds, do not provide a satisfactory account of the influence of the firm on founder development, the researcher must review studies in organizational socialization, which explain the influence of organizations on human development over time.

Organizational socialization is therefore explored in the next section.

Organizational Socialization

Organizational socialization is “the process by which an individual acquires the attitudes, behaviors, and knowledge needed to participate as an organizational member” (Bauer, Morrison, & Callister, 1998, p.150). In essence, it is a process by which the

individual learns the ropes of a particular role in an organization (Van Maanen & Schein, 1979). In an empirical study, Feldman (1976) showed that the socialization of individuals into organizations proceeds through the three distinct stages of: (1) anticipatory socialization, (2) accommodation, and (3) role management. In anticipatory socialization, the individual engages in forming expectations about jobs and making decisions about employment. In the accommodation stage, employees engage in learning new tasks, establishing relationships with co-workers, clarifying their roles, and evaluating their progress. The role management stage involves resolution of work-life/home-life conflicts and resolution of conflicting demands of other workgroups.

Many constructs in Feldman's (1976) model assume the prior existence of an organization that the individual enters as a newcomer. Thus, Feldman's and other socialization studies are based on the cognitive assumption that a pre-formed firm—an entity-like context—exists that the individual does not influence. Additionally, Feldman's (1976) socialization model also assumes the presence of a supervisor at work. Such constructs may appear to limit the model's applicability to founders who start new firms. Nonetheless, it is a useful model in that it identifies the stages of socialization that may apply to founders in relation to their growing firms and gives the researcher a way to determine the sampling time period using the socialization lens.

Because the organization into which a founder socializes is not a pre-formed entity, but instead develops and grows over time, it is necessary to theoretically frame the development of entrepreneurial firms from startup to maturity. The literature on entrepreneurial firm growth is therefore explored next.

Entrepreneurial Firm Growth

The study of entrepreneurial firm growth can be broadly classified under ‘mode of organizing,’ which is an important domain of entrepreneurship research (Busenitz, Plummer, Klotz, Shahzad, & Rhoads, 2014; Busenitz & West, 2003). The ‘mode of organizing’ domain includes “management practices; the acquisition and deployment of resources; and the development of systems, strategies, and structures that allow a newly discovered opportunity to be transformed into a viable goods and services” (Busenitz et al., 2014, p. 4). Early literature on entrepreneurial organizations described the changes in the criteria of effectiveness (Quinn & Cameron, 1983), the nature of politics present in the firm (Gray & Ariss, 1985), and the dominant problems the firm faces (Kazanjian, 1988) as the firm progresses from one stage of development to the next. More recent work identified salient contextual factors—both economic and psychological factors—that drive entrepreneurial success and then mapped them against stages of growth (Vecchio, 2003).

Theoretical work related to venture growth identified the stages of growth but did not explain how the stages emerge in the first place or how the growth of founders relates to the growth of their companies. These life-cycle models have also been criticized because they conceive of organizational development based on the assumptions of linearity, causality, predictability and equilibrium—assumptions that are hard to sustain in describing entrepreneurial growth (Steyaert, 2007). According to Koryak and co-authors (2015), our understanding of how ventures achieve growth is constrained because

studies have taken a simplistic and linear view of a complex phenomenon by ignoring “the coevolution of organizational leadership, resources, and processes” (p.99).

The literature on firm growth has hitherto failed to adequately explain the process by which the stages of firm growth emerge. This study contributes in this area by contributing to the processual understanding of venture growth along with founder development. In doing so, this study uses extant work in theorizing about time. Specifically, as the methods section will show, empirical works which theorize the growth stages of technology startups (e.g., Hanks, Watson, Jansen, & Chandler, 1993; Kazanjian & Drazin, 1990) aid in demarcating the rapid growth period of the firm history on which to focus.

How then might one explain the paradox posed by founders with limited leadership experience who start up and continue to lead successful technology companies? In addition to investigating how the entrepreneur creates the successful firm, one could also examine the complementary question: How does the successful business create the entrepreneurial leader? While investigating how entrepreneurs learn to lead and eventually influence the firm, one could also pay attention to the way the growing firm influences the entrepreneur. By studying how founders and firms mutually constitute each other, the apparently paradoxical relationship of founder development and firm growth can be understood in terms of how each shapes and influences the other.

Theoretical Framework

In this section, I describe the theoretical framework of my study, which draws on practice theory. Although there is no such a thing as a unified practice theory, most

practice theorists conceptualize practices as arrays of activity (Nicolini, 2012; Schatzki, 2001). In a practice perspective, “such phenomena as knowledge, meaning, human activity, science, power, language, social institutions, and historical transformation occur within and are aspects or components of the field of practices” (Schatzki, 2001, p.11). According to practice theory, practices produce organizational reality: Ongoing, everyday actions accomplish organizational phenomena dynamically (Feldman & Orlikowski, 2011).

I drew sensitizing concepts from practice theories because they provide three important theorizing moves: (1) they regard situated action as consequential to producing the structural contours of social life; (2) they reject dualism as a way of theorizing; and (3) they hold that relations are mutually constitutive (Feldman & Orlikowski, 2011). These appeared to be promising moves for theorizing how day-to-day activity influences the firm, how the founder and the firm might be analyzed together, and how founder development and firm growth might exist in relation to each other.

In the following paragraphs, I introduce the key sensitizing concepts from practice theories that inform this study and show how they fit together. These concepts include (1) habitus and its relation with mutual constitution, ontology, practice, and dispositions; and (2) practice and its constitutive elements, their interconnectedness, and mutual constitution. The specific ways in which I use these concepts emerged inductively during the course of the study. However, I present these concepts here for analytic clarity.

Habitus

In this section, I discuss the concept of habitus as introduced by French sociologist Pierre Bourdieu. According to Nicolini (2012), Bourdieu has described the construct of habitus in different ways, including “a set of mental dispositions, bodily schemas, and know-how operating at a pre-conscious level that once activated by events (fields) generates practices” (p.55). Habitus can be thought of as the practical understanding that accounts for much of human activity (Schatzki, 2001). It is the embodied understanding of the rules of the game that is a historical product of an actor’s experiences in a culture (Tatli, Vassilopoulou, Özbilgin, Forson, & Slutskaia, 2014). Though habitus embodies the field’s norms, it is not overly deterministic to the point of precluding human agency. As defined by Bourdieu (1990),

Habitus [is] a product of history that produces individual and collective practices... . It ensures the active presence of past experiences, which, deposited in each organism in the form of schemes of perception, thought and action, tend to guarantee the ‘correctness’ of practices and their constancy over time, more reliably than all formal rules and explicit norms. (p.54)

According to Bourdieu (1990), habitus represents the “structured structures predisposed to function as structuring structures” (p.53). By ‘structured structures,’ Bourdieu refers to the cognitive and embodied understanding of the norms and rules of the field that accounts for human activity. Such practical sense is shaped—structured—by the context. By ‘structuring structures,’ Bourdieu refers to the individual’s dispositions that govern practice, which in turn results in further shaping—structuring—the context. Thus, habitus is a principle that generates practices through the mutually constitutive

action of embodied cognitive structures and contextual structures. Therefore, habitus is an ideal construct to theorize about mutual constitution of persons and organizations.

In studying the development of founders, my concern was one of ontology, who they become, not just epistemology, what they come to know. The habitus redirects the study of change in persons and organizations to ontology (Michel, 2014). Habitus helps examine knowing in a sociocultural perspective: It addresses ontology by analyzing person and context together. Therefore, the habitus construct was relevant to my study.

Habitus provided a lens to study how founders act in accordance with their embodied dispositions—habituated ways of thinking, feeling, relating, and acting. Founders acquired such dispositions historically throughout their social and biographical trajectories. Habitus can be thought of as a product of history that produces practices in accordance with the schemes generated by history (Bourdieu, 1990). As habitus reflects the taken-for-granted mode of self-conduct, people are generally unaware of their own habitus (De Clercq & Voronov, 2009). The study of business practices led me to uncovering founder habitus, because habitus generated the practices in which founders engaged.

While the Bourdieuan concept of habitus provided a lens to study how founders act in accordance with their embodied dispositions, it also accommodated the possibility that such dispositions would change over the period of a firm's life:

Being a product of history, it is an open system of dispositions that is constantly subjected to experiences and therefore constantly affected by them in a way that either reinforces or modifies its structures. It is durable but not eternal! (Bourdieu & Wacquant, 1992, p. 133)

This insight allowed me to look for changes in founder dispositions that were indicative of their changing habitus, which in turn influenced their actions.

Practice

The Bourdieuan praxeology pays scant attention to technology, instruments, and material mediators (Nicolini, 2012). This is a critical aspect of practice, particularly when studying technology ventures. By integrating insights from sociomaterialist tradition, other practice theorists have addressed this limitation: Theorists conceive of practices as “embodied, materially mediated arrays of human activity centrally organized around shared practical understanding” (Schatzki, 2001, p.11). According to Reckwitz (2002),

A ‘practice’ (Praktik) is a routinized type of behavior which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge. (p. 249)

According to Reckwitz, these elements are interconnected, and their existence as well as interconnectedness is essential to the existence of practice. When elements potentially transform each other in practice, changes occur in practices. According to Reckwitz, the single individual—as a bodily and mental agent—acts as the carrier of the practice. Practice elements and carriers were relevant to my research, because these constructs permit the study of mutual constitution: When the elements that carriers contribute to practice reciprocally shape each other in practice, the result may be a change in practice and a change in the carrier. This conceptualization provided a promising apparatus for investigating how founders and firms influence each other in mutually constitutive ways through practices.

Research Questions

The theoretical framework leads to the framing of research questions, which are presented next. This study was guided by the following research questions:

1. How do growing tech companies influence the development of their founders?
2. How do tech founders influence the growth trajectory of their firms over time?
3. How do tech founders and firms coevolve?

Chapter 3: RESEARCH METHODOLOGY

In this study, I was looking to achieve a nuanced and processual understanding of a key aspect of entrepreneurship that is currently poorly understood: the coevolution of founders and firms. This study aimed at theory building through inductive theorizing, in which the researcher discovers recurrent phenomena and relations among them in the stream of field experiences (Miles, Huberman, & Saldana, 2014). Inevitably, new theoretical angles were likely to be discovered once data collection began. Therefore, I remained open to the possibility that the research questions would likely develop as I iterated between data and theory.

My research questions required me to give attention to the temporal dynamics of the phenomena being studied, including the interdependence and sequencing in time. Therefore, I chose to theorize about entrepreneurship in process terms rather than variance terms. Variance theories, which explain phenomena in terms of causal variables, are appropriate in research studies that aim for generalizable conclusions based on broad samples. However, process theories are more suitable for this study, in which I aim for depth, because they can “explain phenomena in terms of activities, events, and choices that constitute them over time” (Johnson, Langley, Melin, & Whittington, 2007, p.54). Process theorizing tends to be dynamic, unlike variance theorizing, which is static. As Langley, Smallman, Tsoukas, and Ven (2013) stated, “if variance theorizing generates know-that type of knowledge, process theorizing produces know-how knowledge.” This is because process theorizing is more concerned with developing explanations of phenomena based on temporal evolution.

From a methodological orientation perspective, for this study I chose qualitative research methods. Qualitative methods see the world “in terms of people, situations, events and the processes that connect these” and explain the world “based on how some situations and events influence others”(Maxwell, 2012, p.29). In contrast, quantitative research methods see the world in terms of variables and explain the world through a “statistical relationship between different variables” (Maxwell, 2012, p.29). A large part of entrepreneurship research, which is based on a deductive and logical positivist approach, utilizes quantitative methods (Hlady-Rispal & Jouison-Laffitte, 2014). A minor yet growing presence of qualitative research is also evident in the field (McDonald, Ching, Simon, Adekunle, & Alistair, 2015). Although quantitative methods measure broad phenomena and provide conclusions that are generalizable, they cannot produce a deep and nuanced understanding of complex interdependencies as phenomena unfold over time. Qualitative methods, on the other hand, use locally grounded data that are rich, holistic, and have a strong potential for revealing complexity, making them suitable for (1) discovery, (2) exploring a new area, and (3) developing hypotheses (Miles et al., 2014). Given the need for contextualization and inductive theory building in my research questions, the use of qualitative methods was appropriate and justified.

Research Design

My design was based on an ethnographic case study—a type of study based on observing naturally occurring events—which is powerful for theory building (Siggelkow, 2007). Theory building from case study research is particularly useful in the early stages of research or when a fresh perspective is needed (Eisenhardt, 1989). I used a multiple-

case study design, in which the same study contains more than a single case (Yin, 2009). According to Yin (2009), multiple-case designs are preferred over single-case designs because (1) multiple cases afford direct replication (similarity) or theoretical replication (contrast), which strengthens analytic conclusions; and (2) multiple cases help blunt criticism or skepticism that arises from fears about the uniqueness surrounding a single case. Accordingly, I developed three case studies, organized in two stages, as shown in Figure 3.1.

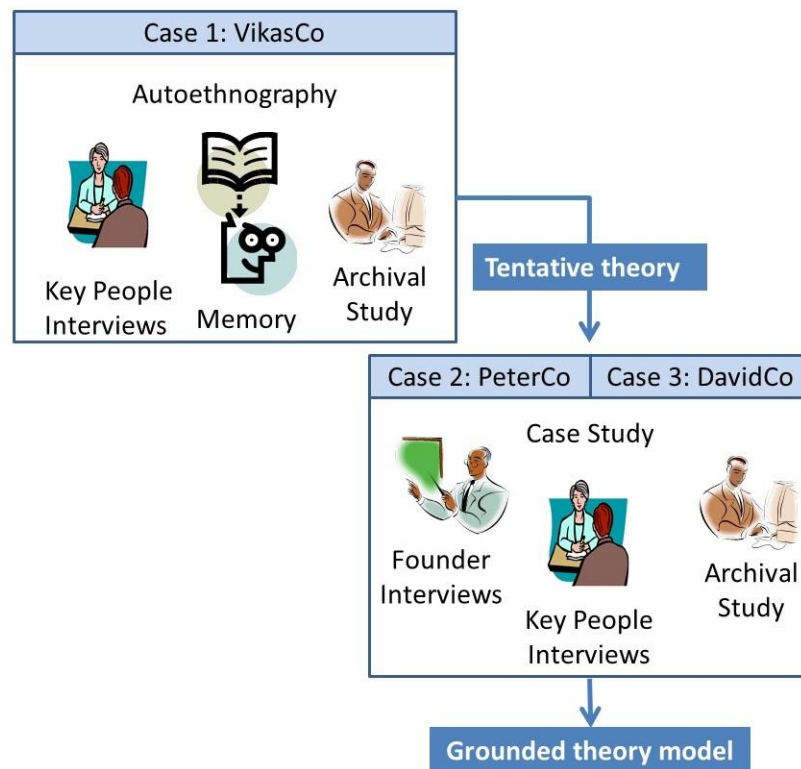


Figure 3.1. Two-stage case study design based on autoethnography and interviews.

Stages of the Study

The first stage included case 1, which was set in the technology firm that I founded, helped grow, and grew with as a leader over the past twenty-five years. I used archival documents, observation, and interviews of the co-founder and other focal individuals involved in the composite unit of analysis, which is described later. I also had my co-founder interview me. I analyzed the data collected using the theoretical framework described in Chapter 2 to build a tentative theory. Next, I used this tentative theory to inform the design of a protocol for interviewing other founders and their team members in the next stage of research, which comprised cases 2 and 3. These cases were set outside my company. Based on interviews as primary data and archival documents as secondary data, I built and compared cases 1, 2, and 3 to refine my theory. Throughout the data analysis, I remained open to refining my theoretical framework as new themes emerged. On a selective basis, I used member checks, which involved sharing my findings with research participants and validating if they thought the themes that had emerged applied across case studies.

The rationale for sequencing the study in two stages was the following. In case 1, I not only had a lived experience of the setting and deeply experienced insights but also had access to fine-grained and detailed data. I could therefore rely upon autoethnography—a method of using one’s own particular experience of a phenomenon to study it (Anteby, 2013), to be described later—and historical analysis of a wide variety of archival documents as my primary sources of data. In cases 2 and 3, in which I collected most of the research data by interviewing the founders and other focal

individuals, my access to archival documents was limited. However, the sources, types, and volumes of data in both these cases were comparable to each other.

Use of Comparison

In this study, I used comparison of cases, because comparison allows the discovery of both repetitive patterns and intriguing contrasts (Johnson et al., 2007). Comparison forces theorization and stimulates insight and understanding (Johnson et al., 2007). The researcher and the participants may both be unaware of what is taken for granted. Comparison helps make visible and salient what is otherwise assumed. In this research, I was interested in participant ontology, which reflects their view of reality, because their assumptions about reality ultimately affect their actions. As revealing ontologies necessitates studying taken-for-grantedness, it requires comparison (Michel, 2014).

Unit of Analysis

The unit of analysis defines the focus of the study. The first choice I needed to make was whether the unit will be narrow—such as the individual founder, the company formation event, a decision, an episode, or a change of routine—or whether it will be broad—for example, a set of activities, or a period of time in the course of the venture. My research questions suggested a composite unit of analysis involving the 'founder' and the 'growing venture,' considered together. A composite unit of analysis is consistent with the sociocultural epistemology underpinning this study, unlike a study based on cognitivist epistemology, in which the individual can be a unit of analysis.

The second choice I needed to make was whether to finalize the unit of analysis in advance. This research set out to study not fixed entities but rather the mutually constitutive relationships between evolving entities. Therefore, my stance was that the unit of analysis for this study is emergent, thus it needs to be established empirically. Given the nature of the research questions, the unit of analysis that ultimately emerged was practices—routines of activity constituted of multiple interconnected elements—that are described later. As anticipated, the unit of analysis involved an aspect of the founder that connects to a context that involves an aspect of the company.

Site Selection and Participants

This research was based on an in-depth study of three cases. Although small samples appear limiting from a representativeness perspective, when prepared with care, detailed stories can allow for "discovering more aspects of experience, more interpretations of experience, and more preferences by which to evaluate experience" (March, Sproull, & Tamuz, 2003, p. 465). Whereas testing with larger samples might follow in due course, the purpose of this study was grounded theorizing, which involves developing theory inductively through constant interaction with data from the study (Maxwell, 2012). The sample needed to be large enough to provide "expected reasonable coverage of the phenomenon given the purpose of the study and stakeholder interests" (Patton, 2002, p. 246). According to March and coauthors, by examining historical experiences intensely and using multiple observers, researchers can learn richly and validly from a small number of events. Even a single case can be a powerful example to build a theory or a counterexample to falsify theories (Siggelkow, 2007). A single case

can also support a comparative study, if the comparison is between empirical data and an existing theory (Johnson et al., 2007).

Sampling Strategy

In this study, I used purposeful sampling, which is particularly suitable for a qualitative study. According to Patton (2002), “purposeful sampling focuses on selecting information-rich cases whose study will illuminate the questions under study” (p. 230). Studying such information-rich cases yields insights and in-depth understanding, which aligns with the goal of qualitative study.

Rationale for case selection. In this research that aimed at theory building, I used purposeful selection for determining the cases to study (Maxwell, 2012). Purposeful selection is a strategy in which the researcher selects cases deliberately to provide information that is particularly relevant to research questions and goals and that other sources may not be able to provide as effectively (Maxwell, 2012). I used the following guiding criteria to make a shortlist of cases from which to make purposeful selection.

1. The firm must be a tech venture, which means it is part of technology industries such as software, hardware, telecommunication, or biotechnology. This criterion follows from the fact that this study is focused on tech firms and their founders.
2. The founder must have been an active top executive at the firm from its inception and throughout the period studied. Depending on the structure of the company, the title may be CEO, president, partner, managing director, or

equivalent. This criterion excludes founders who were dormant, became inactive, or did not occupy top positions at any time during the period studied.

3. The firm must have a history that spans a minimum of seven years. This criterion was derived from Kazanjian's (1988) findings from the study of 104 technology ventures, in which he identified seven years as the average time to reach maturity. Although this criterion stipulated the minimum, the cases I ultimately selected had a life span of 8.5, 14, and 16 years respectively from inception to founder succession—an event that resulted from (1) appointment of a new CEO within the same firm; (2) sale of the firm to another firm; or (3) merger of the firm with another firm.
4. The founder must be willing to spend adequate time helping the researcher with necessary groundwork to establish a timeline of events, generate the interview data, and make introductions to secure interviews with at least five focal individuals such as co-founders, board members, investors, C-level executives, key customers, alliance partners, or key employees. This criterion followed from the need for in-depth data collection for each case study, and I needed access to each focal individual's time in order to collect the necessary data.
5. At least one of the cases selected must be a venture that I have founded and grown. This criterion followed from the research design, which used autoethnography as a first step to theory building, for the reasons explained before.

All three ventures chosen for this study were in the software industry. Given the fact that some of the largest companies in the US are software companies with long founder leadership tenures, software firms represent a particularly salient case of the founder-led high-growth venture phenomenon in the high tech industry. Additionally, criterion (4) above caused me to rely heavily on my own professional network to identify cases, which happened to be in the software industry.

Case 1 spans the time from 2002 to 2010 and involves my software company, which is based in India and in the Pacific Northwest. Case 2 spans the time from 1997 to 2010 and involves a software company based in the Midwestern US state of Iowa. Case 3 spans the time from 1984 to 2000 and involves a software company based in the Silicon Valley. For IRB-approved site consent, see Appendix A.

Participant selection criteria. In addition to the founders, I included several additional focal individuals in the study – eight in case 1, six in case 2, and seven in case 3. The criteria for selection were as follows.

1. A focal individual is a co-founder, board member, investor, C-level executive, key customer, alliance partner, or key employee. Research participants fulfilling this criterion were likely to have the breadth of perspective on the business that a key position affords.
2. The individual must have known or worked with the founder over a minimum of two years within the study timeframe. This criterion allowed me to ensure that they had knowledge of the firm and its environment over a period that spanned beyond seasonal variations.

3. The individual must be willing to participate in a research interview of up to one hour.

For IRB-approved participant consent, see Appendix B.

Sampling Time Period Determination

I studied each case from startup to succession event. This covered the entire lifetime of the firm with the founder at the helm. Before reaching this decision, I tried to establish a minimum period of study based on theory. My perspective was to sample observations at the beginning, at the midpoint, and at the end of the period under study. This would allow me to set a baseline for comparison and study processes and to observe outcomes of growth of the firm and development of the founder. To determine the length of period to observe, I initially considered two theoretical approaches as guiding frameworks: (1) the stages of organizational socialization (Feldman, 1976); and (2) the stages of firm growth (Kazanjian, 1988).

Organizational socialization. One approach to theoretically establish the observation time window for this study was to construe founder development as organizational socialization, which refers to “the process by which one is taught and learns the ropes of a particular organizational role” (Van Maanen & Schein, 1979, p. 210). Based on empirical studies in the organizational socialization literature, longitudinal sampling over a year would suffice to understand the founder’s socialization into the firm. For example, in an empirical study, Feldman (1976) analyzed a cross-sectional sample of employees in which 60% of participants had less than a year in the role. Bauer and co-authors (1998) analyzed 47 longitudinal studies of socialization

between 1986 and 1997 and found that the average time span between first and last data collection was 10.55 months. Although a theoretically meaningful point for the last data collection would be when the socialization process “ends,” in the absence of the knowledge of such end point, socialization researchers consider three-month demarcations useful for sampling, because they allow for cross-study comparisons (Bauer et al., 1998). Therefore, a study could also start with a year of sampling that would provide four such demarcations, and additional samples could be collected until saturation.

Firm growth models. As I sought to investigate the development of founders in the context of the rapid growth of their firms, empirical studies in high-technology venture growth provided another way of determining the period of study. In a study of 133 high-technology firms, the mean ages (time since inception) of growing firms clustered around stages of growth in the following ways: (A) development and early commercialization—4 years, 6 employees (B) expansion—7.4 years, 24 employees; (C) later expansion / early maturity—6.6 years, 63 employees; (D) maturity and diversification—16.2 years, 495 employees (Hanks et al., 1993). These are clusters, not stages, therefore the ages don’t necessarily increase from A to D. Firms in clusters B and C represent firms that are experiencing rapid growth in the same industry where firms are at development and commercialization stage in cluster A. Over the intervening three years, the average development/commercialization cluster firm moves to one of the two expansion clusters. This is one estimate of the sampling period for tech startups, if high growth is to be observed. In another study of 104 new technology-based ventures, firm

age (time since inception) and headcounts were mapped with stages of growth theorized in the following way: (1) Conception and development—4.3 years, 58 employees; (2) commercialization—5.6 years, 68 employees; (3) growth—7.1 years, 346 employees; (4) stability—9.4 years, 423 employees (Kazanjian, 1988). In a follow-up study using the same sample, a simple prediction rule that technology-based new ventures should advance one stage during an 18 month transition period was supported (Kazanjian & Drazin, 1989). Therefore, Kazanjian and co-authors' work suggests an observation period of approximately three years, occurring primarily after stage 1 up to stage 3.

After considering both sources, I remained open to the possibility of studying the entire firm lifetime. After selecting the firms and examining their histories, it became clear that I needed data over the entire length of time from startup to succession for a meaningful comparison. Therefore, I disregarded the earlier approaches and went ahead with the whole firm lifetime with the founder at the helm as my period of study.

Personal Background

In this study, my positionality—parity in the researcher-participant relationship (Agee, 2009)—differed significantly across the cases selected. In case 1, I was the business founder. Therefore, during the period that is being studied, I was primarily concerned with participation in the business setting and only occasionally observed my growth from a research perspective. Thus, I was an observing participant—a person for whom participation in the setting comes first, and observation for research is only occasional (Alvesson, 2003). Other key members in case 1 included a co-founder,

employees, a channel partner, and a customer with whom I had been involved in direct business interactions in my capacity as a CEO.

In cases 2 and 3, I was not involved in the ownership or management of those businesses. However, in both cases, the founders were part of my professional network, and they had been involved in business dealings between their companies and my company. The professional relationship of trust between me and these founders fostered genuine dialog, leading to information-rich interviews. Implications of my relationship to the participants will be discussed in the validity section to follow.

Even though I adopted a sociocultural frame in conducting this research, I noticed a cognitive orientation in my approach to case data in two places: (1) my initial design of the interview instrument, and (2) some of the coding categories I initially identified. To align my instrument better with my theoretical framework, I explicitly tabulated my interview questions and the theory underpinning each question. This made me mindful about asking questions that are framed in the appropriate unit of analysis. This helped me achieve a better instrument design. To address my cognitive orientation during analysis, I replaced my initial set of categories with theoretically-informed ones so that I could explicitly find or not find support for the propositions implicit in my theoretical framework. This helped me identify themes that ultimately led to the grounded theory. I provide further details in the next section.

Data Collection Methods

The first stage of my research (case 1) used five overlapping data sources: (1) autoethnography involving 17 observational notes reflecting about 24 hours of effort in

sampling communications over the firm lifetime; (2) three retrospective semi-formal interviews in which I was interviewed by my co-founder, totaling 3.75 hours; (3) one co-founder interview, five team member interviews, one channel partner interview, and one customer interview, all totaling 8.75 hours; (4) study of archival documents; and (5) memos written throughout data collection. The second phase of my research (cases 2 and 3 together) used four sources: (1) six interviews with the two founders totaling 7.5 hours; (2) 13 interviews with various focal individuals totaling 10.5 hours; (3) study of media clippings, web-based material, photographs, and company presentation material, as available; and (4) memos written throughout data collection. In addition, I had multiple face-to-face meetings with founders for case groundwork and to arrive at an accurate timeline of events, which totaled about twenty hours. My rationale for using multiple data sources was that they serve to enhance the validity of research through data triangulation, which improves the accuracy and completeness of data (Jick, 1979; Patton, 2002). In the following paragraphs, I describe my data collection methods in detail. A matrix display mapping my data collection and analysis methods to the research questions is in Appendix C.

Autoethnography

My primary data collection method for case 1 falls under ethnography, which involves observing naturally occurring events. As this research aimed for depth, detail, and nuance rather than convergence on well-defined constructs, ethnography was suitable (Johnson et al., 2007). Ethnography reduces the researcher's dependence on the respondents' accounts; allows for the discovery of phenomena that participants may be

unaware of, or find hard to articulate; and provides a foundation for ethnographic case study, which is powerful for theory building. Case 1 affords excellent access to empirical material for a autoethnography, in which scholars use their lived experience of the field primarily to inform the analysis (Anteby, 2013). I have personally been part of the founding team in this case, and it has considerably enriched my experience in entrepreneurial activity through the course of my long career. Autoethnography allows reflection upon phenomena that the researcher has lived through and has tacit knowledge about (Johannisson, 2011). Key benefits of autoethnography include added biographic and contextual diversity in fieldwork, polyvocality, deep understanding of research settings, and a more nuanced understanding of archival data (Anteby, 2013).

As Figure 3.2 shows, I pursued three avenues of data collection for autoethnography: personal memory data, observational data, and interview data. In each type of data, I started with a primary data source, validated the data using at least one different source, and used that data to produce transcripts and notes. A discussion of the methods used for collecting each type of data follows.

I captured personal memory data about the case in the form of reflection memos that were organized chronologically by major periods in the firm. To minimize the distortion of time sequence in data, I made use of the timeline of events I had built using observation data. To validate the content of my personal memory data, I had a dialogic engagement with my co-founder on a regular basis over a month. During this time, we signed off on the content. Although the data appeared accurate, it lacked the voice and language that I use when talking about my business. Therefore, I then used the same

founder interview protocol instrument that was to be used with other founders to have myself interviewed, resulting in three interviews that were recorded and subsequently transcribed. This created a data set that was (1) based on personal memory; (2) checked for accuracy of sequence; (3) verified by another person intimately familiar with it; and yet (4) reflected my narrative voice and emotion. Founder interviews are described in detail in a later section.

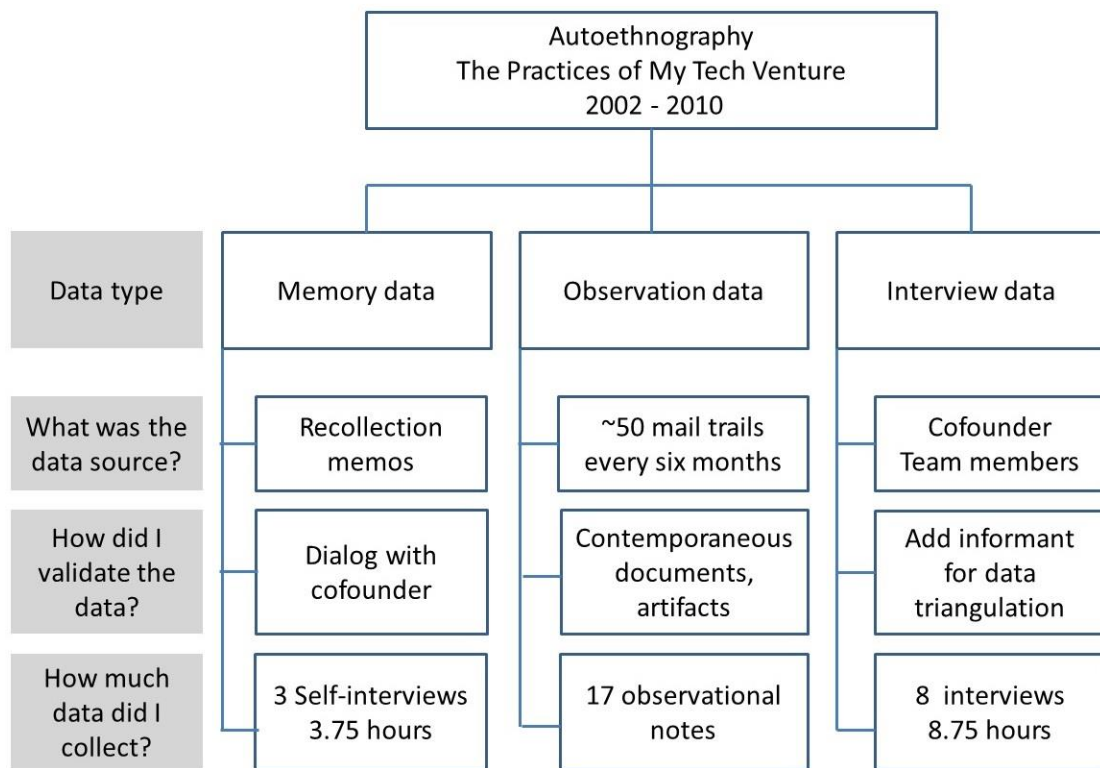


Figure 3.2. Autoethnography: Data collection plan.

Although my observation could not be anything but retrospective, I was fortunate to have a rich source of data: all business emails sent and received—together with attached documents—for the entire lifetime of the firm. I empirically determined six

months as the appropriate time interval for sampling email trails. When I tried quarterly sampling, I did not find it added substantive new information, and annual sampling was missing some significant events. I should note that I examined complete mail trails, which means a single email trail would allow me to go back several days or weeks. I chose one month out of every six months of the sampling period and examined approximately fifty mail trails for each selected month. This allowed for coverage of maximum topics, and I chose to include only interesting topics that contributed to the goals of this study. I flagged and summarized emails and attached documents that appeared interesting and separately reviewed them, wrote quick jottings, and then combined the jottings into a full observational note that described the state of the business during that month and how it seemed to have evolved from six months before. The attachments to emails provided me excellent access to contemporaneous documents and other material artifacts representing practice. In this manner, I wrote 17 observational notes spanning the time from startup to succession.

Semi-formal interviews constituted a third source of autoethnographic data. I interviewed the co-founder, five team members (including four ex-employees and one current employee), a channel partner, and a customer. My goal in doing these interviews was data triangulation. Therefore, prior to each interview I put together a specific list of questions I wanted to have answered in that interview. This practice was very helpful. During interviews, I probed these individuals based on evolving themes. In this manner, I completed eight interviews and had them recorded and subsequently transcribed. Semi-formal interviews are described in detail in a later section.

Throughout the process of data collection, my entrepreneurial habitus was activated, because the topic of discussion was the very business in which I have been involved, and the person I was talking to was involved in the business as well. This had a dual consequence. It caused me to come up with probing questions to tease out the unfolding events seemingly effortlessly, and the participants reported a sense of engagement in the interview. At the same time, I found myself to be a much better reader of the transcript than a listener in the moment of the interview. Thus my ability to understand the informant's perceptions differed during the interview and while reading the transcript. I attributed this difference to my dual habitus: although the discussion of business events with people activated my founder habitus, later on while reading the transcript, I was at my desk, surrounded by artifacts reminding me of my identity as a researcher, which activated the researcher's disposition I started acquiring through research. Additionally, during data analysis, the use of theoretically-derived categories helped strengthen my grasp of interview data.

According to Chang (2008), autoethnography can be construed as “a qualitative research method that utilizes ethnographic methods to bring cultural interpretation to the autobiographical data of researchers with the intent of understanding self and its connection to others” (p. 56). Given the scope and intent of this study, and keeping in mind its unit of analysis, I determined that it was necessary to explicitly pursue collection of data in the cultural context in which the practices of my business occurred. As Figure 3.3 shows, I examined three contextual influences: e-learning markets in the US, global tech startups, and the IT services industry in India. Based on my background knowledge

of what mattered to the players in each of these contexts, I identified from among my interviewees the experts in each area and included questions about the relevant context in their interviews.

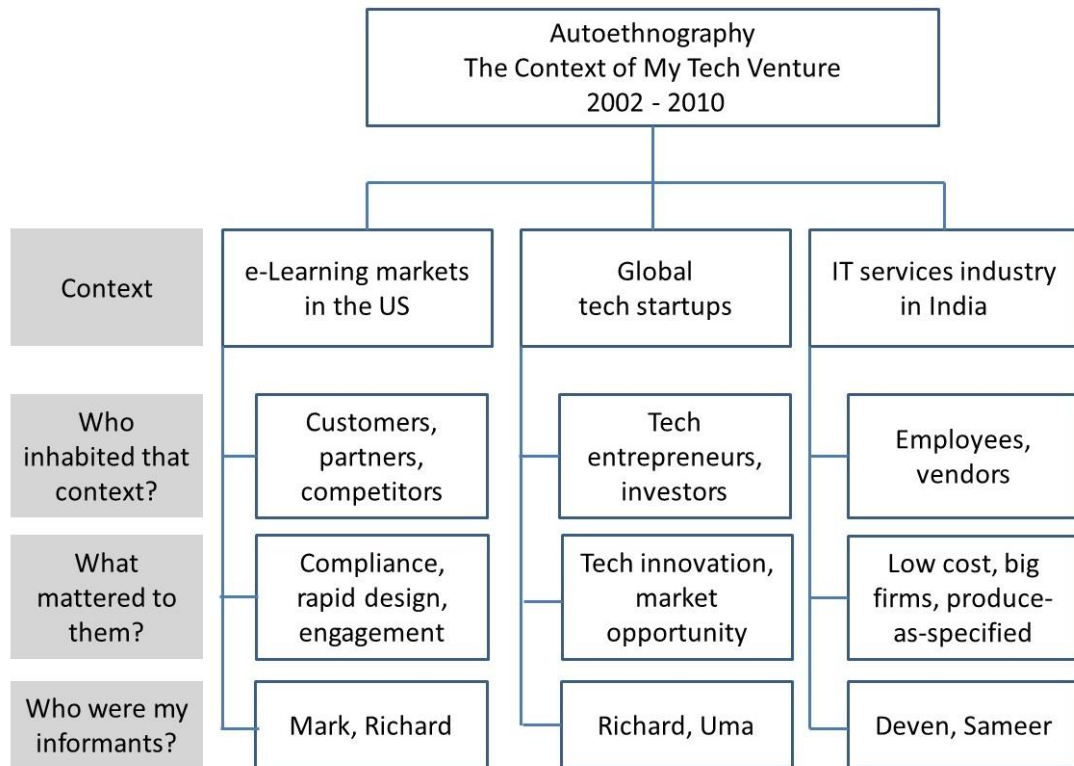


Figure 3.3. Autoethnography: Sources of contextual data (names are fictitious).

Due to the epistemological stance of this study, which holds that reality is socially constructed, data are taken to be representations, not facts. To reflect these representations fairly, deep involvement in the setting is necessary (Johnson et al., 2007). Autoethnography fulfils this requirement. Autoethnography has the capacity to generate novel and interesting empirical material, allows for theoretical development well-grounded in experiences and observations, and generates authentic representations (Alvesson, 2003). At the same time, I remained mindful about its limitations, which

include questionable neutrality, the risk of ‘staying native,’ and the absence of distance. I addressed these limitations through data triangulation within case 1 and also by studying additional cases 2 and 3, which did not use autoethnographic data.

Founder Interviews

The primary goal of founder interviews was twofold: (1) to have myself interviewed to capture personal memory data in the voice and language that I use when talking about my business, and (2) to utilize the accounts of other entrepreneurs to analyze phenomena in different settings and refine the theory built largely from autoethnography. I was interviewed over three sessions, and I conducted three in-depth, semi-structured, retrospective interviews of each founder. I relied on interviews to provide access to hard-to-observe data such as people’s feelings, thoughts, and intentions (Patton, 2002). In-depth interviews provided a deep, detailed, contextualized, and nuanced understanding of people’s perspectives. My prior interactions suggested that these entrepreneurs were natural storytellers. In-depth interviews helped in eliciting their stories.

These interviews were retrospective. Qualitative process theorists consider longitudinal data collection essential to capture the evolution of events over time (Johnson et al., 2007). In such a view, the utility of retrospective interviews may appear limited. However, since the focus of theorizing in this study was long-term change processes involving founders and firms, I determined that fine-grained detail was not critical. Therefore, retrospective reports were acceptable, especially when complemented with archival data for historical analysis (Johnson et al., 2007). A longitudinal study that

supports long-term theorizing would also have been untenable within the dissertation timelines.

Although interviews are a widely used data collection method in qualitative studies, interviews cannot reveal blind spots and are therefore limited in their ability to reveal participant ontologies, which consist of assumptions they hold about the nature of reality. I wrote memos about the interviews immediately upon conclusion of each interview, capturing my observations and fleeting thoughts. After each interview, I went back to iterate the memo by questioning my hidden assumptions, reflecting on how things might have turned out differently, and juxtaposing multiple perspectives on the same phenomenon. I also used additional archival documents, as necessary for collecting additional evidence. Every time I iterated the memo, I went back and re-worked the coding categories, which are described later in this chapter.

Groundwork. Before starting interviews, I met with both founders face to face. These meetings were useful in doing the following groundwork of the case study: (1) making them familiar with the goals of the study; (2) identifying key event periods in the firm's history to establish a timeline of events; (3) receiving an overview of the firm history so I would be better equipped with a context for the interviews; (4) identifying participants for interviews based on their meeting the criteria and our ability to access them; and (5) identifying sources of materials such as presentations, news items, interviews, and other artifacts. Initially, the research design provided for one founder interview, with an option to add another short follow-up interview. After piloting the interview instrument, it became clear that a total of three to four and a half hours would

be needed for each interview. Therefore, each founder interview was scheduled in multiple parts.

Instrument. My founder interview instrument is included in Appendix D. The design of this instrument was influenced by theoretical concepts from literature and the research questions of this study. Appendix E shows how the interview questions mapped to theoretical concepts in literature. Appendix F shows how the interview questions mapped to research questions. Questions included in these interviews investigated (1) evolving practices of the business; (2) the founder's evolving cognitive structures; and (3) how the founder and the firm shaped each other.

I piloted the founder interview with a founder who has successfully sold one company and has been running another venture-funded startup. During the pilot, I became aware of several instances when the founder was 'jumping ahead' and answering some of my additional questions that were to follow. I learned to anticipate this phenomenon. Initially, I had designed the interview instrument assuming it would take about 90 minutes. The pilot made me realize that this was going to be a much longer interview. The pilot itself had to be done in two lengthy sittings. Based on the feedback from my pilot participant, I split this interview into three parts.

I noticed that although I adhered to the founder interview protocol with both founders, I encountered occasions when their answer to a previous probing question contained what I was looking for in the next. In those instances, I skipped those questions. In addition, one major element that was not explicit in the interview protocol was the timeline of events that occurred during the period of the case. I had the timeline

with me as I conducted the interview, and I specifically probed for events that I—in my earlier face to face groundwork with them— had identified as being important to study.

Focal Individual Interviews

The goal of interviewing focal individuals was to elicit the unfolding of events, to understand changes in practices, and to explore specifically what changes—if any—the respondent may have perceived in the founder and the firm over the period under study. Across three cases, 21 such individuals were interviewed. Every semi-formal retrospective interview lasted between 30 to 105 minutes, with the average being 53.5 minutes. These interviews allowed me to closely examine the phenomena under study and triangulate data from founder interviews. Most of these interviews took place over the phone, but a few were face to face. I prepared a custom list of questions for each interview depending on the evolving case-specific themes and based on the data I needed to triangulate. Although I started with a smaller number of participants, in each case I ended up including additional participants based on the evolving needs of this study and on the participants' recommendation by following snowball sampling, which involves asking well-situated people to identify other individuals who could contribute significantly to the study (Patton, 2002). In this way, I moved on to the next interview of a team member. I stopped interviews and archival study at the point of within-case data saturation.

Archival Document Study

Archival document study provided secondary data for this research and served to establish a timeline of events based on documented evidence. Archival documents served

as material representations of the practices in which the founder and the firm engaged. Each document, together with its timestamp, represents a work product at a point in time. Such work products reflect the venture's activity structures. I reviewed several documents, including marketing materials, press reports, presentations, and product roadmaps, as available.

Memos

The common purpose of various types of research memos is “to create conscious moments of structured, systematic reflection” during the course of research (Ravitch & Riggan, 2012, p.153). I prepared extensive memos based on the data collected. Field notes were expanded into formal write-ups. Analytical memos are described in the data analysis subsection below. Throughout the process, I maintained a journal recording my reflections. I used a dialogic process with Christopher McLaverty, my colleague and a doctoral candidate, to discuss our memos with each other. Using interview data as primary data and archival documents as secondary data, I built and compared themes of cases 2 and 3 with the themes of the autoethnographic case to refine the theory. To effectively iterate between data and theory, I planned short re-interviews with the founders in the form of short phone conversations. These interviews included specific questions inspired from evolving categories.

Timeline of Events

I established a timeline of significant events in the life of the company for each case throughout data collection and used the timeline as a frame for data collection, whether I shared it with a participant or not. The timeline contained events such as firm

incorporation, external financing, key hires, product releases, major customer wins, awards and other recognition, revenue milestones, headcount milestones, infrastructure changes, alliances, key employee promotions and departures, and founder succession. To observe the intertemporal and developmental aspect of the theory, it was necessary to minimize inaccuracies in data collection that inevitably result from relying on participants' memory. Archival documents served a useful purpose.

Data Analysis

My data analysis proceeded from grounded theory building, an approach ideally suited for theoretically or empirically underexplored phenomena (Charmaz, 2014; Strauss & Corbin, 1990). In this study, I used two types of data analysis strategies: categorizing strategies and connecting strategies (Maxwell, 2012). Categorizing strategies, which include the coding and thematic analysis described below, focus on relationships of similarity and differences among data segments. Connecting strategies, which include case writing and narrative analysis also described below, focus on seeing connections—relationships of contiguity, antecedents and consequences—in the actual context of data. Unlike categorizing strategies in which the contextual ties that bind data together are lost, connecting strategies attempt to understand individuals or situations in a holistic way. I used both categorizing and connecting strategies. My research questions ask about the ways founder development and firm growth are connected in a specific context and setting, namely technology entrepreneurship. These questions could not be answered by an exclusive categorizing strategy. Therefore, I needed connecting strategies. At the same time, I need categorizing strategies because my research questions sought to also discover

common themes and explain differences by comparing multiple cases, which means they could not be answered by an exclusive connecting strategy either (Maxwell, 2012).

I analyzed the data obtained from autoethnography, participant interviews, research memos, and archival document study inductively for theory generation, iterating between data and theory (Charmaz, 2014). I commenced data analysis in parallel with data collection because (1) the new hypotheses that emerge during early analysis can inform further data collection (Miles et al., 2014); and (2) final analysis becomes less tedious if unanalyzed field notes and transcripts are not allowed to pile up (Maxwell, 2012). My analytical work included coding, theme identification, jottings, within-case analysis, memos, and cross-case analysis. All of these methods will be described next.

First Cycle Coding

I started the process of coding with first cycle coding, which involved attaching labels to data segments that serve as a means for easy retrieval and as prompts or triggers for sense-making. Miles and co-authors (2014) describe several coding methods, out of which three elemental methods—descriptive coding, in-vivo coding, and process coding—were most appropriate for this study. I used descriptive codes, which are labels such as “prototype” or “market positioning” that summarize a topic. For analyzing interviews, I also used in-vivo codes, which are labels such as “burn rate” or “trophy customer” that honor the participant’s voice. For coding participant actions and interactions, I used process codes, which are labels such as “improvisation” or “learning” that describe action. Process codes are particularly suited to grounded theory building. Additionally, I used sub-coding—adding a second order tag after a primary code—

because it is appropriate particularly for “ethnographies, studies with multiple participants and sites, and studies with a wide variety of data forms” (Miles et al., 2014, p.80). I created codes using a combination of deductive and inductive coding. Deductive codes are based on the conceptual framework, research questions and other sources that suggest labels *a priori*. Inductive codes emerge during data collection. I remained particularly alert to inductive codes because they provide local insights and promising new perspectives. I went back to data periodically to check the fit between a code and data, modifying or removing a code as required. I consulted with a colleague to ensure that the code definitions were clear.

Second Cycle Coding

In second cycle coding, I used pattern codes, which group first cycle codes into a smaller number of themes or categories. Examples of such themes were “founder as a context-specific resource” or “initiating regulated improvisation.” One important goal of pattern coding was to lay the groundwork for cross-case analysis by identifying common themes and processes.

My pattern coding comprised three types of categories: organizational, substantive and theoretical (Maxwell, 2012). Organizational categories corresponded to broad topic heads under which data can be organized in view of issues I want to investigate. Examples might be “environmental factor,” “firm growth,” and “founder development.” Substantive categories that identify the content of participants’ descriptions or beliefs were generated inductively through open coding of data. Such categories were emic—using participant’s words and concepts—or etic—using

researcher's language and understanding. Examples of substantive emic categories were "taking a bet you can afford," "playing in the big league," and "doing something different." Examples of substantive etic categories were "advantage-seeking behavior," "recognition by industry," and "legitimizing new norms." Such substantive categories were particularly important to my data analysis because (1) they represented data relevant to substantive concepts that may otherwise not be held together; and (2) they provide a way of capturing participants' ideas about the phenomena under study about which I may not have theorized. I also used theoretical categories that were derived from prior theories in the literature or the theory I developed inductively. An example of categories based on prior theory might be "legitimate peripheral participation." An example from my theory might be "founder-firm coevolution."

I prepared a categorical coding matrix (Maxwell, 2012) that tabulates data segments in columns against categories in rows. Such a visual display alerted me to empty cells—which implied that some cases do not produce data that falls under a given category—and helped me further develop my analysis. Occasionally, I adjusted interview questions and selected additional observations based on emerging themes.

Jotting

Throughout my analytical work, I continued the practice of jotting—producing a small piece of writing—to capture "the researcher's fleeting and emergent reflections and commentary on issues that emerge during fieldwork and especially data analysis" (Miles et al., 2014, p.94). I used jotting throughout the coding process to strengthen coding, to

remain mindful, to develop tentative ideas about categories, and to lay the groundwork for analytic memo writing.

Within-case Analysis

As argued earlier, this study could not be complete without connecting strategies of data analysis. Within-case analysis of entrepreneurial activity presented one such strategy that allowed me to hold on to the story and preserve contextual unity. Such work addressed the main deficiency of coding, which is that it “replaces the original set of contextual relationships within an interview transcript or observational field notes with a different, categorical structure” (Maxwell, 2012, p.112).

Case writing marked the beginning of my within-case analysis. The goal of a within-case analysis is to understand, describe and explain phenomena in a single bounded context (Miles et al., 2014). To get a holistic understanding of a case, I assembled all material pertaining to a case in one folder and reviewed it, writing memos in the process, which facilitated within-case analysis (Eisenhardt, 1989). During within-case analysis, I endeavored to comprehend the local web of causality by understanding each case in its own terms. During the within-case analysis, I started generating a list of assertions and propositions, which would help in initial theory building. According to Miles and co-authors (2014), assertions provide a summative synthesis with confirming evidence from the data and can be revised when disconfirming data present themselves. Propositions are statements that put forth conditional events, which are if-then or why-because proposals (Miles et al., 2014). Throughout within-case analysis, I checked the

source of data (e.g. notes, interview, memo) to triangulate data for the purpose of enhancing accuracy.

Memos

Throughout the data analysis process, I prepared analytic memos that documented my reflections and thoughts about the data as I attempted to synthesize data into higher levels of meaning. Memo writing during data analysis not only captures thoughts about data, it also facilitates and stimulates analytical thinking (Maxwell, 2012). Memos served as the conceptual foundation for findings and discussion that appears in later chapters. Memos helped me to understand the data abstractly and to position my evolving theory in the literature.

Cross-case Analysis

My primary purpose of cross-case analysis was to deepen understanding and explanation by examining similarities and differences across cases. Instead of trying to prove generalizability, I tried to establish to what extent the patterns found in cases 2 and 3 theoretically replicated the patterns I had inductively derived in case 1. Thus, I used case-oriented strategies for cross-case analysis rather than the variable-oriented strategies that aspire to identify themes that cut across cases (Miles et al., 2014). To keep theories grounded in data, I had planned to create evidence tables with data from multiple sources. Although I did not complete this activity, every time I used evidence, I checked back that it had multiple sources. This I could do easily because source information was included in my categorical coding matrix. I also carried out member checks selectively, in which I checked emerging theories with participants. I iterated between data and theory until I

had the best theoretical explanation of data (Miles et al., 2014). For presenting findings, I drew primarily on cross-case synthesis, which aggregates findings across a series of individual case studies (Yin, 2009). I discussed each research question using evidence deliberately chosen from multiple cases. With this approach, my analysis became easier and findings were likely to be more robust (Yin, 2009). For a timeline of procedures of this study, see Appendix G.

Limitations and Validity Discussion

To the extent autoethnography is used as a primary method of data collection in case 1, the most significant validity threats included narcissism and lack of professional distance (Anteby, 2013). The autoethnographer needs to struggle with his or her personal and cultural framework. When I made observations about the setting in which I have been a participant, I was likely to have the tendency to ‘stay native,’ which would have to be countered by liberating myself from taken-for-granted ideas and having an open mindset (Alvesson, 2003). One more way I dealt with these threats was to include in my research design two cases that do not involve me as a participant and therefore do not involve autoethnography.

For cases 2 and 3 involving founder interviews, I needed to be concerned with the inherent inaccuracies in self-reporting. Also, these cases afforded less proximity and access to observational data and archival documents than the earlier case. However, my interview data collection in these cases benefited from the theorizing accomplished after the first case. With a clearer idea about the evolving categories and emerging theories

held tentatively, I was able to design better probing questions, ask for specific archival documents, and achieve more effective data collection.

Another validity threat arose from the dissertation timeframe, which made a longitudinal study untenable. This threat was mitigated with retrospective interviews and document study. It could be argued that retrospective reports may involve time distortion, because human memory is fallible. The impact of such distortion is mitigated (1) with data triangulation and (2) using a timeline.

Yet another validity threat concerned data collection using instruments that reflect biases and blind spots the researcher may have. To mitigate this threat, I began data analysis concurrent with data collection, which “can be a healthy corrective for built-in blind spots” (Miles et al., 2014, p.70). As new themes emerged inductively, I was able to refine my instrument. Ongoing analysis could therefore generate strategies for collecting better data.

Researchers have argued that individual cases are often based on retrospective data and have limited representativeness (Hlady-Rispal & Jouison-Laffitte, 2014). This argument portrays case studies as being vulnerable to validity threats. Case-based evidence helps provide proof of a phenomenon’s existence: Although a reader may be convinced that the theory explains a given phenomenon in the specific context of a given case, such existence proof may not be enough for the reader to believe the proposed theory. The reader might argue that the case is but one example in the whole universe of how A leads to B. Therefore, the value of the contribution will remain in doubt

(Siggelkow, 2007). To minimize this concern, I used multiple cases and cross-case comparison (Yin, 2009).

Finally, the researcher's positionality has validity implications. Achieving a balance between drawing upon my own experience and setting aside my biases may have been a non-trivial endeavor. In collecting data and conducting interviews with my team members, I tried to ensure that hierarchy, relationship, and decorum did not attenuate genuine dialog. Likewise, in working with other founders and their teams, I had to draw upon past professional relationship and trust, as well as non-disclosure safeguards, to allow them to share their experiences freely. By offering anonymity and member checks, I was able to give them an extra measure of comfort.

Chapter 4: FINDINGS

Guided by the purpose of exploring how founders of technology companies and their firms evolve together, and adopting a perspective based on sociocultural theories, this study set out to answer the following research questions:

1. How do growing tech companies influence the development of their founders?
2. How do tech founders influence the growth trajectory of their firms over time?
3. How do tech founders and firms coevolve?

Three significant findings emerged from this study: (1) Firms influenced the development of founders by using founders as context-specific resources and by placing founders in changing relationships with others; (2) Founders' improvisation—regulated by their evolving habitus—influenced firm growth; (3) Founders and firms coevolved in a mutually constitutive relationship simultaneously as well as over time. Figure 5.1 presents a grounded theory model of founder-firm coevolution that emerged from the data set. I discuss this model in Chapter 5.

In the sections that follow, I describe my findings in detail. Each finding description starts with the research question it addresses, outlines key themes and subthemes of the finding, cites evidence for each theme and subtheme in the form of quotes (using fictitious names for companies, products, and persons—except myself), and provides interpretation of the evidence. Once all findings have been presented in this way, I close the chapter with a summary.

Finding 1. Founder Development Influenced by Firm

Research Question 1: How do growing tech companies influence the development of their founders?

Firm growth changed the conditions under which business practices occurred. Firms influenced the development of founders through two primary mechanisms: (1) the firm used the founder as a context-specific resource, and (2) the firm placed the founder in changing relationships with others. This section evidences how each mechanism activated different transformational patterns under different conditions. This section also elaborates each transformational pattern by showing how it changed the founders' habitual ways of thinking, relating, and feeling; shaped their field-specific dispositions; offered them different tools with which to work, and enrolled them in different temporal patterns.

The Firm Used the Founder as a Context-Specific Resource

In the firms studied, founders contributed their skill and effort to practice as the need arose based on changing context—making them context-specific resources in use. For example, Vikas, the founder of VikasCo—the firm studied in case 1—became involved in market thought leadership after his co-founder took over all his operational responsibilities: “When I became president, Vikas became focused on the external side of the business. His areas included webinars, speaker engagements, and evangelism” (Co-founder in case 1, personal communication, November 2015). Peter, the founder of PeterCo—the firm studied in case 2—would himself review and finalize contract terms before the firm hired legal help for this task: “For quite a while, he was the attorney”

(VP of Sales in case 2, personal communication, January 2016). In the firm's use of founder as a context-specific resource, at least three types of transformation patterns emerged: (1) the founder taking on a new role; (2) the founder re-learning a familiar role; and (3) the founder engaging in situated learning triggered by formal learning.

Founder taking on a new role. From time to time, firms generated a need for the founder to take on a new role and thereby use different tools, enroll in different temporal patterns, and develop new habitual ways of thinking, feeling, and relating. *Founder taking on a new role* was a recurring phenomenon in the cases studied. This section presents three prototypical points in the lifetime of a firm when founders took on new roles and witnessed a transformation in themselves: (1) the emergence of a growth opportunity; (2) ongoing growth; and (3) exit.

As new growth opportunities emerged, firms created new tasks. Therefore, founders encountered varied and new contexts in which to work. For example, when Peter focused his own business development effort in an unfamiliar market, it was tantamount to a role change: "We had no experience in the federal government. The only member that was excited was the rep herself. And then, we were awarded the [government] business" (VP of Sales in case 2, personal communication, January 2016). This change in context triggered a change in the founder: "... that's when Peter got very involved with the federal space" (VP of Sales in case 2, personal communication, January 2016). In this way, the founder started and continued gathering experience—a cognitive transformation—and developing an interest in this market segment—an emotional

transformation. The emergence of this new growth opportunity in government work triggered these transformations for the founder.

A founder became a different type of resource through the use that was made of him in specific social contexts. According to David, the founder of DavidCo—the firm studied in case 3:

When we started, I was a one-man development machine. And so that my ability to make technical decisions, make platform decisions, make tool decisions, design, develop, test whatever the product [needed] obviously was critical during that phase. As we moved forward and hired a team, I needed to drive the development process rather than be the developer. (Founder 3, personal communication, December 2015)

This example illustrates how one aspect of firm growth—hiring a team of engineers—caused a transition in David’s role from a software engineer to an engineering manager. Apart from showing how the founder became a different type of resource once the context changed, this example also illustrates his self-interpretation as a flexible resource. This was not only a cognitive change that entailed becoming aware of one’s usefulness in new roles but also an emotional change that fostered openness for new roles as the firm created new tasks.

David’s self-interpretation as a flexible resource continued to inform his actions throughout the firm’s lifetime right up to the exit event. When DavidCo had a merger offer on the table, David feared that his partner—who would normally be responsible for completing the deal—might ponder it too much, missing the window of opportunity. In this particular context, David became the dealmaker, as it were, and took the deal to the finish line.

And then, when I got off the phone ... I said, "Something has changed over there. David was grabbing the bull by the horns on the business side, so something has changed over there." So I recognized that something had changed just by the fact that David decided to kinda like move ahead on a business aspect, which I think he would've, under normal circumstances, given to Bob. (Senior Executive in case 3, personal communication, January 2016)

In the process of completing the merger deal, which was a new task, David had a lot to learn: "And learning about the entire field of mergers and acquisitions was a huge transition for me personally" (Founder 3, personal communication, December 2015). As this example shows, the desire for a favorable exit together with the fear of missing the window of opportunity induced David to become the partner leading the merger, performing a role for which he was far less equipped than his partner. As he forged ahead in that role, knowledge gaps emerged, and he needed to close them to get the deal done. This example reinforces the finding that firm growth entailed a cognitive and emotional change in which David habitually regarded himself as a flexible resource, was aware that he could be useful in a new role, and was open to take on that new role when the situation demanded it.

Sometimes the readiness for a new role entailed giving up the familiar role and dealing with its emotional consequences. Founders developed habitual ways of dealing with such emotions. When DavidCo got ready to merge with a larger company, David had to deal with an emotional side of the exit event:

... that is a transition from saying wait a minute, this business that I built that has been my life, that has been my focus, and in many respects my identity for years and years and years and years, is really an asset—and it is an asset that I need to figure out how to maximize its value to me, which includes some day not owning the asset. (Founder 3, personal communication, December 2015)

Once the two companies merged, David would have a different role that he looked forward to:

Well, I think he was jazzed about it. It was a great opportunity for us personally, financially. And it also looked like he would be working with lots more engineers and doing lots more projects at a higher level. I mean, that was his love. He really did not want to be CEO of that company. (Spouse of Founder 3, personal communication, January 2016)

This example shows that the founder developed a habitual way of dealing with emotions—in this case, a loss of an identity as partner-owner of a company and a hope for a new identity as CTO of a larger company—while also considering the risk and reward calculations. The founder’s maturity evidenced in this example suggests an emotional change in the founder emanating from a merger event that was the culmination of firm growth.

Together, these examples illustrate that in new ventures, founders could not limit themselves to roles for which they had experience. Firm growth caused founders to take on new roles. Taking on a new role became a transformational pattern for these founders as evidenced in the practices of sales, product development, and succession.

Founder re-learning a familiar role. With growth, new knowledge gaps emerged even when founders worked in familiar roles, which developed in them new ways of thinking and relating to which they became habituated. Founders developed a tendency toward mindfulness about obsolescence, openness to learn from others, and willingness to let go of old ways. These changes together constitute a transformational pattern labeled *founder re-learning in a familiar role*.

As the firm grew, knowledge gaps emerged for the founder with changes in the context. For example, as technologies changed over time, it became necessary to migrate the firm's software products to new platforms, necessitating the knowledge of new platforms. At startup, David focused on software engineering, in which he considered himself to be an expert: "My understanding of software engineering was industrial-strength" (Founder 3, personal communication, December 2015). Except once he started working on the product, he realized the need for "relearning, and in some cases newly learning how to build software." An important cognitive change occurred, namely, the repeated and enduring realization of the ongoing need to close emerging knowledge gaps as technology evolved. David explains, "My experience went back to the main frame era: very different era than the PC era and the network PCs era and then the internet era" (Founder 3, personal communication, December 2015). In this way, the founder developed a tendency of mindfulness about obsolescence and a willingness to let go of old ways.

While performing practices familiar to them, founders developed an awareness of new sources of knowledge. When Peter was the only person at PeterCo flying out to meet a customer when a deal needed it, he became a field salesperson. He was very familiar with this role, which entailed meeting customers, discovering their needs, explaining the product to them, and negotiating a sale. Despite his expertise as a sales person, he discovered that sales were not taking off: "So as we started to sell the P3 system, we were beginning to have some challenges with that" (Founder 2, personal communication, January 2016). Then he realized the reason. Buyers were only interested in one out of

three parts of his product: “But this online coursework kept coming up as something that was hot” (Founder 2, personal communication, January 2016). This was an important relational transformation for the founder—viewing a customer as someone from whom to learn, not just as someone to whom to sell. In the subsequent history of that business, there are numerous instances when the founder used customers as a source of knowledge. For example, several years later, Peter repositioned the firm by studying how large customers used their product: “We had some big customers like Dell and Google and others that were using this for their external audience...”(Founder 2, personal communication, January 2016).

As the above two examples show, *founder re-learning in a familiar role* became a transformational pattern in the practices of product development and sales.

Situated learning triggered by formal learning. Learning situated in context offered opportunities to deepen formal learning in practice, equipping founders with new tools, having founders adopt new temporal patterns, and encouraging founders to create new habits. Founders built on formal learning that occurred in other business contexts when they encountered situations in which the firm needed them to be useful in different ways:

Founder 3: I started to go to the occasional conference and became exposed to formalized business strategy. I went to conferences that were more about, you know, small businesses and growing business and that sort of stuff but I when I stumbled upon business strategy, I had that Ah ha experience. I said holy crap, look at this! These are actually people who have written books and developed ways of thinking and modeling this stuff. And you know it appealed to me immensely and I started reading stuff and thinking that way.

Interviewer: And then, what did you do with all that stuff?

Founder 3: And so ... this was really something that was ingrained in me. During adolescence, Bob and I began doing regular strategic planning including using an outside firm a couple of times. And you know we became really good at a methodology that we were exposed to.

The exposure to formal strategy had a strong motivational consequence. It became a precursor to situated learning involving the founder, his partner, and an external agency together repeatedly performing the practice of strategic planning for DavidCo. The practice of strategic planning equipped David with tools that he sourced from an outside firm and then internalized as well as the language used by the models he studied. In conducting regular strategic planning sessions, a temporal pattern for strategic planning was established. The founder's choice of words is telling: he and his partner "were exposed to" the methodology in formal learning and "became really good at" it in situated learning. Together, these forms of learning led to a psychological transformation—motivation for strategic thinking. David's situated learning developed in him the emotional preparedness to drop things that did not work strategically: "We worked on TRA for four years and it was an award-winning product. But we had to drop it because every incremental dollar produced more returns on RecordKeeper, so investing in TRA did not make sense" (Founder 3, personal communication, December 2015).

In the subsequent years, David became mindful about scanning the environment and evaluating threats: "Just because you're there, doesn't mean that you've noticed what's there, doesn't mean that you've really paid attention" (Founder 3, personal communication, December 2015). Much later, David's assessment of his market led to a decision to merge with another company:

In the late '90s, the internet bubble started to build. We were the dominant player in the market, and ... this was a market in its entire lifetime, since the beginning the universe, had not seen a cumulative \$100 million in revenue, where suddenly companies were being funded with ... several hundred million dollars of capital, which totally was distorting the market. (Founder 3, personal communication, December 2015)

These examples illustrate that throughout the firm's growth trajectory, as the founder became a resource in different situations, his learning deepened. The situated learning is evident from the periodic planning exercises, the decision to drop a product, and the decision to pursue merger with another company. Formal learning served as a trigger for situated learning, in which the founder acquired new tools and language, became involved in a new practice of strategic planning that had a specific temporal pattern, used an external agency as a resource for strategic planning, became mindful about scanning the environment, and developed emotional readiness to act strategically.

The Firm Placed the Founder in Changing Relationships with Others

Further transformations in founders resulted from a change in the founder's placement relative to others in the firm and in the environment. This developmental mechanism manifested in at least two transformational patterns in the firms studied: (1) the founder's attunement—the act of becoming aware and responsive—to other people's expertise, and (2) the evolution in the founder's habitus—a set of acquired dispositions. Each pattern is elaborated next.

Founder's attunement to other people's expertise. With firm growth, specialized practices involving expert individuals emerged. These practices generated the opportunity for founders to work with experts, leading to transformational outcomes. For

founders, attunement to other people's expertise entailed not only utilizing the expertise but also learning through participation in practices.

Founders learned to utilize the expertise of others when new practices demanded it. When founders encountered a knowledge gap, the starting point was to work together with experts. At PeterCo, when they gained an outside equity investment, the board of directors changed and so did the practice of board meetings. Suddenly, Peter found himself on somewhat unfamiliar grounds, but he was surrounded by experts:

The new board would be interested in a lot more detail than Peter initially wanted to provide. It's like this is mine and why do you need to know all that stuff? Other senior execs were able to provide him some consulting that said, hey, it's okay to open up the kimono here and provide this information to these people because that's the kind of stuff they're going to need to know. He became more comfortable with that the more often we'd do it. (VP of Sales in case 2, personal communication, January 2016)

When the outside board members were asking for a lot of information, the CFO and President—who had prior experience with such meetings—were the people that the founder could turn to for expertise.

Peter's habitual way of relating to experts as potential resources helped him greatly as the firm grew. For example, in another situation when the firm was contemplating a technology platform overhaul, his tendency for attunement to other people's expertise helped him greatly in working with the CIO, who was a technology expert: "He wanted to trust the technology team to do what technologists do. And I think he was trying to find the right mix of people to make that happen" (CIO in case 2, personal communication, January 2016).

Attunement of founder to the expertise of others was also seen in the case of VikasCo. Although Vikas had grown a service business before, growth in that business came from managing and growing engagements and seeking referrals. Consequently, the sales force had been very small. With the product business, Vikas needed a large sales organization with specialized managers, reps, and resellers.

You recognized that sales people behave and think differently. Your tolerance for ambiguity grew – when a sales person talked about six out of ten deals panning out, you tolerated lack of specifics better over time. You learned to allow leeway. Later, when others joined and stayed, that was a result of that adaptation. (Sales Manager in case 1 to Founder 1, personal communication, January 2016)

This example evidences that Vikas became attuned to the expertise of these specialists the firm needed to hire to support its growth. The relational transformation made him more tolerant of ambiguity. The behavioral transformation made him allow leeway to sales people, which in turn helped in retaining a greater number of sales people.

One strategy that was particularly fruitful for founders while participating in practices that were new and specialized was to carry elements across from other practices into the new practices they encountered, as Peter did when he talked to the engineering teams: “Peter and I interacted on a very regular basis, primarily because he was getting feedback from customers, and that was kind of our connection point. Engineers, sometimes they're not good at listening to customers” (CIO in case 2, personal communication, January 2016). In this way, by acting as a crossing point of practices, founders developed a habitual way of relating to people working in specialized practices.

Founders also learned through the process of legitimate peripheral participation, in which the individual learns to function in a community, absorbing its ways of working over time and eventually becoming an insider. Founders started working on the periphery of practices with which they were not familiar. Over time, founders absorbed, and were absorbed into, the practices. Vikas recalls how he learned to create local offerings for international customers by starting at the periphery of markets that had international customers and channel partners who knew how to sell to them:

Working with channel partners became a valuable way of learning about international customers from a distance. We learned a great deal from our position as product makers, getting a sense of how market expertise manifested at various levels in our channels. These channel partners worked closely with customers and had their own ways of selling that suited the markets they served. We noticed that our resellers started creating materials, such as demos and brochures, in local languages. Our channel partner in Thailand published a book on instructional design in the Thai language, using our product to illustrate the concepts. Our channel partner in Malaysia created an educational game to demonstrate our product in schools. Over time, my team and I realized the value of augmenting our product by a variety of services and ancillary products that international customers needed. (Founder 1, personal communication, November 2015)

The founder's learning process started with a role that was 'legitimate' because he acted as provider of the product, and therefore he needed to know how the channel was operating in the market. His role was also 'peripheral' in the sense that he did not perform any task critical to the sales function. Over time, the founder absorbed the ways in which channel partners interacted with customers. Eventually, over the course of several deals, he became more fully aware of the customer needs. In the course of this transformation, Vikas not only developed a customer orientation that made him realize the need for complementing a core product with a set of ancillary products and services,

but he also developed an openness to listen to channel partners. An American channel partner evidenced this learning: “You always were listening to the things that we were asking for and quickly iterating and implementing those. So it's the relationship that we valued sometimes even more highly than the product. Because we had a voice” (Channel Partner in case 1 to Founder 1, personal communication, November 2015).

This example evidences both a habitual cognitive change and a relational change that accompanied *founder's attunement to other people's expertise* while learning through legitimate peripheral participation.

Evolution in founder's habitus. As firms grew, the founder's social position in the field changed. With a changing position in the social order, field-specific acquired dispositions—such as propensity to launch new innovations, firm-centered self-interpretation, corporate lifestyle, confidence in decisions, inclination to gain publicity, and openness to outside investment—evolved, predisposing founders to some actions and not others. This section illustrates the transformational pattern of *evolution in founder's habitus* involving changes in dispositions with the help of two examples: (1) recognition by industry, and (2) financing growth. It also shows that founders acquired multiple such dispositions in a dispositional toolkit of sorts and exhibited different orientations side-by-side as different dispositions were activated by different cues.

Recognition by industry. For founders, recognition by the industry unfolded dispositional transformations. One consequence of recognition by industry was reflected in the founders' habitus: It gave them a sense of the firm's relative position in industry. When VikasCo won a round at a software shootout in Los Angeles, Vikas sensed that his

firm was in the game: “We could not only compete with other e-learning vendors but we could win at a global level” (Founder 1, personal communication, November 2015). In this instance, the founder felt more confident. Thus, the founder acquired an emotional disposition that was specific to the field in which his firm competed. This disposition was instrumental in giving the founder the confidence to build and launch several innovative new products in that market.

With firm growth, the founders’ firm-centered self-interpretation—distinct from an individual-centered self-interpretation—became stronger. This strengthened identity perception was evident when a founder remarked, “[Being included in the Inc. 500 list of the fastest growing private companies in the US] propelled us out of being a scrappy little startup into recognizing that we were a real business. It was kind of like being Bar Mitzvahed” (Founder 3, personal communication, December 2015). Here, the founder identifies himself with the firm and likens its acceptance by the industry with the way in which the society accepts a growing individual as an adult. According to David, the company became, in many respects, his identity “for years and years and years and years” (Founder 3, personal communication, December 2015). This attachment of the founder’s identity with the company had consequences for the emotional challenge the founder encountered at the time of merging the company.

Industry recognition also bolstered the identity of these founders as successful businesspeople. David, for example, felt after the Inc. 500 award that he now belonged to an elite club of owners of fast growing firms: “... rubbing elbows with other people who had gotten the award and other people who had gotten it in previous years. Some of

whose companies were now really big deals” (Founder 3, personal communication, December 2015). To be counted among successful businesspeople was a change in habitus, and with that came new practices that sustained their new position. For example, they made a decision of “moving to much larger quarters, when Bob and I signed a lease guaranteeing two million dollars” (Founder 3, personal communication, December 2015). The space was large enough so that “there would be no need to move again for several years” (Founder 3, personal communication, December 2015).

As recognition by the industry made these founders feel validated, they became less inclined to question the choices they had made in the business and more confident in answering criticism. For example, when PeterCo won a coveted government license to solicit business, Peter felt that his vision of hosted software was validated: “We could counter the objections to hosting from enterprises by showing them that government agencies were using our hosted application” (Founder 2, personal communication, January 2016). In this way, becoming a government vendor transformed Peter’s disposition toward his detractors, making him even more committed to hosted software.

Industry recognition made founders aware of the marketing advantage they could derive from publicity. Vikas realized that customer inquiries went up right after a product review appeared in a leading industry publication: “The ASTD review alerted me to the value of publicity. We then had the product listed in Brandon Hall’s worldwide authoring tools report as well” (Founder 1, personal communication, November 2015). Vikas thus became habituated to the media orientation. This disposition was activated again ahead of a major recruiting drive: “Our publicity efforts in the local media paid off and we were

fortunate to be able to attract some very capable employees from outside” (Founder 1, personal communication, November 2015). This quote evidences that Vikas became habituated to using media coverage to gain advantage.

Financing growth. A tension between the need to finance growth and the need to limit personal exposure created the need for the founders to make financing decisions. The decisions founder made were indicative of how their dispositions evolved in the process. PeterCo was funded in seed investment by an angel investor who also guaranteed, together with Peter, bank notes that provided additional finance from time to time. Peter recalls the situation:

We did not have to raise any outside venture capital for ten years in that business. Then in 2008, you know, [angel investor] took a real hard financial hit at that time, and said, "I'm tapped out, Peter. I can't help you guys anymore." A lot of our business was built on bank notes – I think at that time, we had borrowed up to \$22 million, and my name was on that, the list. ... So I would go to bed at night thinking, shit, I've got to sign another personal guarantee here. (Founder 2, personal communication, January 2016)

The stress that was induced by the need to limit personal exposure while continuing to finance business was finally resolved when Peter became open to venture capital and believed he could get it. His assumption at the very beginning of the business was that no venture capitalist would want to invest in them. With this changed situation, in which the firm had grown and so had its financial needs, Peter sought out venture capital and was successful in raising a significant round of financing.

At DavidCo, the founders saw venture capital differently. According to David,

Bob and I viewed bringing in a VC as bringing in a partner that we didn't want to have, and bringing in constraints on our ability to be the sole bottom-line decision makers for the business. We didn't want anyone else to have a say. That was something that was part of both of our makeups. And it was something that we

agreed on kind of at a core level. We understood what happened when you acquired capital investors. Until we got to the end game where it was necessary to do something, we just didn't want to go there. (Founder 3, personal communication, December 2015)

The founder's need for autonomy in decision making far outweighed other considerations in this case. Their negative disposition toward external investment was consistent with this need for autonomy. In the end, as better-capitalized competitors entered the frame during the internet investment bubble, DavidCo was faced with the choice between dying a slow death and merging with a better-capitalized firm, and the founders chose the latter. The perception of threat, sharpened by an astute observation of what was happening in the industry, allowed them to make that choice.

These examples provide evidence that as founders acquired multiple dispositions, the dispositions co-existed and were activated by different cues. For example, in David's case, the tendency to want autonomy and control over business co-existed with a need to limit risk to the business. For sixteen years, he and his partner stayed away from outside investors to preserve control and autonomy, but a changing situation activated a different disposition—the tendency to limit risk to business—which made them open to a merger in which they would lose autonomy and control.

Together, these examples show that during the course of growth, firms deposited new dispositions in founders that fit with the firm's practices. These dispositions were shaped by changes in social position that came with firm growth. These dispositional changes were unique to founder-CEOs, because the change in the founder's relationship with others was fundamentally different from non-founder executives in three ways: (1) their own identities were strongly tied to companies, resulting in strong emotional

dispositions; (2) from unknown entities, their firms became important players, which resulted in a dramatic change in how the founders were positioned in the social order of the industry; and (3) the evolving trajectory of the firm could significantly influence the founders' dispositions, as their fortunes were strongly tied to the firms.

In summary, as firms influenced the development of founders, a range of transformations took place. Founders became habituated to new ways of thinking, relating, and feeling. Founders adopted the temporal patterns and tools of the practices in which they were involved. Founders developed a variety of dispositions that were activated by field events to produce action in unique ways. The mechanisms by which these transformations were accomplished involved (1) the firm using the founder as a context-specific resource and (2) the firm placing the founder in changing relationships with others.

Finding 2. Firm Growth Influenced by the Founder

Research Question 2: How do tech founders influence the growth trajectory of their firms over time?

Founders influenced the growth trajectory of their firms through improvisation—“the deliberate and substantive fusion of the design and execution of a novel production” (Miner, Bassoff, & Moorman, 2001, p.314)—while performing the day-to-day practices of business. Founders' improvisations were consistent with their dispositions, and thus reflected their unique habitus. Over time, as founders' dispositions evolved, the changes in dispositions shaped further improvisations. This section presents evidence for the ideas

that: (1) founders' improvisations influenced firm growth; (2) founders' habitus shaped their improvisations; and (3) founders improvised differently as dispositions evolved.

Founders' Improvisations Influenced Firm Growth

Improvisations set in motion a variety of transformations in the firm. Such transformations had consequences for the firm's growth trajectory over time. By way of example, I elaborate three practices in which founder-induced transformations occurred: (1) product development, (2) product marketing, and (3) employee management. The example from product development illustrates how the founder's improvisation created deviations from the planned growth and altered the growth trajectory. The examples from product marketing and employee management illustrate how the founder's improvisation corrected or prevented deviations from planned growth to maintain the growth trajectory. In each example, I outline the mechanism by which improvisation generated a transformation and also state the consequence of transformation for the firm's trajectory.

Founders transformed product development by finding ways of incorporating customers' ideas into the products they were making. In doing so, their participation in multiple practices—some of them customer-facing and others related to product-building—played a pivotal role. At VikasCo, the primary mechanism for eliciting ideas was product demos to customers during trade shows. Vikas describes how this played out in a particular instance:

To create a differentiating feature in our authoring tool, we came up with the interactivity builder. At a trade show, a user who liked it asked us if we could make it work with a competing authoring tool. Later during debrief, we favored that idea and risked cannibalizing the authoring tool. Over time, sales of the interactivity builder that was now compatible with other tools took off, making us

an interactive tools company. (Founder 1, personal communication, November 2015)

The key improvisation occurred when the founder incorporated a customer's idea into the product, transforming the whole product line. Once the interactivity builder was positioned as a separate product compatible with several other authoring tools, the firm's erstwhile primary product—an authoring tool—was cannibalized. This was a stark choice, because firms do not readily choose to threaten their primary source of revenue when introducing a new product. The founder's surprising choice followed his customer-oriented disposition in product development: habituated to heeding customer voice, he could hear that in a bid to differentiate an existing product, he had created what amounted to a powerful new product. This prompted him to make the bold move. As pioneers in this new product category, the firm achieved sales growth. "From competing in the crowded category of authoring tools, we transitioned into pioneering a new category of interactive tools. That whole transition was a series of breakthroughs we had not planned beforehand" (Founder 1, personal communication, November 2015). In this way, the firm followed a different growth trajectory instead of staying the course as an authoring tools company.

An example from product marketing illustrates that the firm's growth trajectory guided practices, and the repeated practice performances in turn helped maintain the trajectory. When the firm growth plan created the new task of digital marketing, Vikas realized that his resource situation jeopardized the plan: "We had no marketing people in-house, and this whole field of online marketing was so new, that hardly anybody was available in this city back then to hire" (Founder 1, personal communication, November

2015). The founder then teamed up with a product expert and the duo became the digital marketers: “We relied heavily on Google Adwords as our primary marketing channel. Search marketing was very new at that time, but we came up with some great search words, and it worked. Online press releases worked very well, too” (Product Manager in case 1, personal communication, January 2016). As they explored and implemented specific digital marketing campaigns repeatedly through day-to-day practices such as search marketing, their performance of these practices led to maintaining the growth plan: “With those clever keywords, our cost per lead came down, ultimately helping us get a greater bang for the marketing buck” (Founder 1, personal communication, November 2015).

Founders transformed employee management by shaping employee behaviors as they embedded their values and beliefs in practices. One way in which they accomplished this was through carefully designed incentives. David strongly believed in a business model he and his partner implemented at DavidCo, which entailed “a standard configurable product, sold remotely at low prices in high volumes, with minimal service” (Founder 3, personal communication, December 2015). At DavidCo, “all customers were equally important” (Founder 3, personal communication, December 2015). The ground reality didn’t always match that: “Some of our tech support people were a bit chatty. But they were very friendly, and customers loved talking to them” (Tech Support Manager in case 3, personal communication, January 2016). Although David appreciated the customer relationship building, it kept other customers waiting. Therefore, he needed to “find a gentle way of incentivizing people to try to wrap it up” (Tech Support Manager in

case 3, personal communication, January 2016). Finally, he found a way to accomplish both ends without adding staff:

One of the first things that we did was to switch to using an automatic call distribution system, so we would have a phone queue. ACD gave customers a way to get to the next available representative in a timely manner, and it also gave us the ability to start breaking down some of the phone metrics that we wanted to track... any call that was on hold for longer than eight minutes sort of spilled into this higher level queue. If we went through the entire day and there was not a single phone call that was on hold for more than eight minutes, then I would buy my staff lunch. (Tech Support Manager in case 3, personal communication, January 2016)

In this way, David exploited the ACD technology's affordance to create an incentive for attending to every customer within a set time limit without explicitly limiting the length of any single conversation. The organizational outcome of this simple improvisation was dramatic:

The department ... was functioning incredibly well, and we had a staff of five or six people ... We were handling about 60 brand new incidents a day, and since our calls could range anywhere from five minutes to two hours in length, that was a fairly good number. (Tech Support Manager in case 3, personal communication, January 2016)

This example evidences that the founder influenced the efficiency with which the firm could support a growth in the number of customers by setting in motion a behavioral transformation among tech support employees. In doing so, he maintained alignment with the business model. David could have chosen to set a maximum limit on the duration of a call, distributing service capacity evenly across customers. However, David's habitus was shaped in a way to maintain alignment with the business model: he was disposed to act in ways that would support a business model based on remote sales and service, to which

limited duration calls were antithetical. Therefore, his behavior pattern disposed him to identify customer wait time as the lever to pull.

Another way that founders used improvisation to influence firm growth was through material artifacts that symbolized the founder's values. These artifacts were then embedded in the firm's social practices. At PeterCo, Peter found a way to embody the values of customer care and championing in a motif:

Yeah, he had that picture put up at the entrance. You know, St. George came in and saved the village from the evil dragon by slaying it, so we wanted to put that forth to our employees that you can do what you need to do for that client at that time, and that kind of being that knight in shining armor, the champion for our customers. (VP of Human Resources in case 2, personal communication, January 2016).

In this way, PeterCo conveyed the company mission to employees using a material artifact that symbolized championing for customers. PeterCo also gave away awards at a quarterly town-hall meeting: "I mentioned the Saint George and Saint Georgette. We would have awards we would give away where people would nominate other people in the company who exemplified this idea of basically being a customer champion" (Founder 2, personal communication, January 2016). Thus, an important company value was conveyed by the founder through the painting, the awards, and the employees who were nominating peers. The organizational consequence was that it empowered employees: "They had permission to go ahead and do what they needed to do to make that customer happy" (VP of Human Resources in case 2, personal communication, January 2016). The mechanism by which this transformation was achieved entailed the founder, the firm, and the environment coming together in

entrepreneurial practices so that agencies were distributed between things and people, and the social relationships were congealed with the material aspects of these practices.

A similar transformation of employee behaviors allowed Vikas to get a grip on sales activity by implementing customer relationship management (CRM) technology in the firm: “As we transitioned from desktop-based CRM to a server-based CRM, it became a system and process for visibility and transparency of sales effort” (Sales Manager in case 1, personal communication, January 2016). In the sales practice, the relationship between the founder and the sales force congealed with the server-based CRM technology, which added transparency in the relationship. Being a technology maker and user, Vikas was disposed to trying new tools, making successive CRM trials an option he favored for improving sales force management. Once information management around the sales activity became streamlined, the founder could hire a larger number of salespeople: “Our front-line sales force grew to over thirty people during that period, and that does not count the dozens of international resellers or the in-house support staff” (Founder 1, personal communication, November 2015).

In improvisation, the material convergence of design and execution implies temporal convergence of design and execution (Miner et al., 2001). Therefore, improvisation permits no temporal gap between the design and execution of activities. As a result, founders had little opportunity to obtain appropriate resources in advance, and they had to make do with resources at hand. The examples show that founders turned a visitor at a trade show booth or an information system used in business into the resources they needed for improvising.

Together, these examples evidence that the behavioral transformations among employees that was set in motion by the founder ultimately influenced firm growth. By citing examples in the practices of product development and employee management, this section showed that founders' improvisations influenced the growth trajectory of firms in different ways: (1) repositioning a product radically led to sales growth and market leadership; (2) exploring new ways of marketing resulted in cost-effective lead generation; (3) using an artifact for employee empowerment ultimately led to enhanced service and customer satisfaction; (4) creating incentives to subtly align employee behaviors with the business model reduced customer wait times during service incidents; and (5) using technology for enhancing sales effort transparency paved the way to scale up sales force headcount. In the first example, the founder's improvisation created a deviation that altered the firm's growth trajectory. In the remaining examples, the founder's improvisation compensated for deviations that might have caused the firm to stray from its growth trajectory.

Founders' Habitus Shaped Their Improvisations

Founder's habitus—a system of previously developed dispositions that carried an active residue of the founder's past experiences—was activated in the presence of environmental cues. Once activated, habitus shaped the founder's perceptions and actions in ways that fit with the habitus, resulting in improvisation. Coming from the founder—a disproportionately influential individual in the firm as compared to other actors—such improvisation influenced the firm significantly.

The founders' entrepreneurial habitus regulated their perception of choices, causing them to improvise in surprising ways. Peter recalls how the industry expected vendors to install their systems on a company's servers: "In order to do that, as you know, you basically had to have a legion [of implementers], to install that on their servers" (Founder 2, personal communication, January 2016). To build these capabilities would need a lot of money. Peter recalls saying to his colleagues:

... we don't have any money, and nobody from California or Boston is willing to fly to [our town in] Iowa if I want to raise the money, to basically go to a board meeting. So we don't have any choice [of raising venture capital]." (Founder 2, personal communication, January 2016)

Peter's habitus as an entrepreneur from a town in the state of Iowa in the 1990s ruled out the possibility of raising venture money for a startup from venture capital firms in Boston or California that invested in tech businesses. This forced Peter into thinking of a bold alternative that he articulated to his team: "We're going to make a strategic decision ... We're going to have to stick with this concept of being a hosted [software] company only. Let's try to create an image in the marketplace for hosted only" (Founder 2 to his team, personal communication, January 2016). Peter's habitus, a result of his social and biographical trajectory up to that time, set perceptual filters that made some action choices and not others apparent to him. He did not perceive raising venture capital as a choice. His previous startups did not use venture money, so he was habituated to grow companies through angel funding and revenue earning. This disposed him to continue running his tech firm without venture capital, which created resource constraints that led to improvisation in software delivery as a hosted service. One situational cue that

activated this disposition was the firm's decision to use Salesforce.com software for their sales team:

The person who was head of marketing for me asked me to check out Mark Benioff, the founder of Salesforce. "He's calling himself the anti-software company. He's saying he's never going to put his software behind the firewall. This guy is our model." So I went out and actually started having conversations with Mark... We became then really zealots about never, ever basically co-opting to go behind the firewall. (Founder 2, personal communication, January 2016)

Peter did encounter situations when a salesperson would tempt him to make an exception to this decision, but he ensured that the firm stayed the course:

In the early days, [the VP of Sales] would come to me and say, "Hey, we've got a deal. We could get \$1 million if we go behind the firewall." And I'd say, "Let's pass on it. Let's give them our competitor's name. Let's say, we'll be around in two years when they're totally dissatisfied and the whole world has changed. They'll come back to us when they find out we have the right model" (Founder 2, personal communication, January 2016).

The decision to stick to hosted delivery had far-reaching consequences for the organization. Being a hosted solution, the firm encountered initial resistance from security-sensitive IT organizations. However, after overcoming initial resistance, it was able to add new customers quickly: "So we set up – because we were a hosted solution, we could just configure them very rapidly, get them up and running, and bang, bang, bang, bang, bang, we got them all up, and they were happy" (Founder 2, personal communication, January 2016). The firm was also able to easily address the needs of customers who wanted to use the system for their partners, suppliers, and customers—all of whom were typically outside the enterprise firewall. Ultimately, this improvisation born out of the founder's perceived lack of choice allowed PeterCo to emerge as a significant company in the hosted HR software category.

In contrast to the founder's own account, other employees viewed this decision as a testimony to visionary leadership: "He had a unique ability to take a necessity and turn that into a marketing vision. Right? Look at your limitations and then find a way to make that a positive" (VP of Sales, case 2). The following quote from another founder evidences the phenomenon of attribution: "I really refined my mantra which was, and is, to always accept credit that people heap on you even when you don't deserve it because you're going to get plenty of blame that you don't deserve anyway" (Founder 3, personal communication, December 2015).

A colleague described an improvisation that resulted when Vikas contributed to designing the user interface of a software product:

You took user experience to the next level. You introduced a story-based configuration interface in which the user would read a paragraph that explained how to configure the interaction, and along the way clicked on hyperlinks to actually perform actions. That way, by the time the user reached the end of the story, the interaction would be configured and ready. (Tech Consultant to Founder 1, personal communication, December 2015)

Vikas explained where this improvisation came from: "This is exactly how we helped our users over international calls. We walked them through an example, and in the end they got it. One day, while working on the user interface, I simply embedded that process in there" (Founder 1, personal communication, November 2015). As this example shows, the founder's customer-oriented habitus allowed him to perceive the user interface not only as a technology artifact but also as a trigger to imagine a customer experience. Furthermore, his habitual search for optimizing cost of delivery allowed him to embed into the software an experience normally delivered over an expensive phone call. Such improvisations had important consequences for the firm: "The team imbibed that culture

of creating stellar user experiences—a culture that eventually led to establishing a dedicated user experience group that is still growing” (Tech Consultant in case 1, personal communication, December 2015).

In addition to shaping the founder’s perception, founders’ habitus also pre-disposed them, when situational cues were present, to certain actions that resulted in improvisation. A career-long involvement in a variety of successful deal-making activities pre-disposed Peter to look for a deal in a broad range of situations, a case in point being a Canadian company that was about to go public and had the same name as Peter’s fledgling venture:

So I called them up and said, ‘Excuse me, but you guys are infringing on my trademark ... I’ve done my whole branding almost for a year... I look like I have about \$100,000 in this’ ... and they said ‘Sold’. (Founder 2, personal communication, January 2016)

His deal-seeking habitus allowed him to frame an accidental discovery of a company with an identical name as an opportunity to monetize an asset. “I then picked a new name that I liked better anyway, and the money added to our runway” (Founder 2, personal communication, January 2016). In this way, the improvisation led to an organizational consequence, namely, additional funds with which to work. A few months later, when he started reselling a technology someone had developed, the developer made an offer to sell it for a fixed price. “It was something that I could not afford. So we signed a right to buy the rights for that technology at an agreed price” (Founder 2, personal communication, January 2016). In this way, deal-seeking was a habitual behavior for Peter that influenced his improvisations that led to firm growth.

The shaping of action by habitus was also evident in the case of Vikas, who had a decade-long experience of running a service organization prior to launching products.

The product was desktop-based, which meant that it had to be installed, activated, and updated separately for every user. He saw product users struggling:

We were located in India. Most of our customers were in the U.S. and they needed the assurance that there was somebody they could reach out to and ask a question. So, I worried about this lack of proximity and the risk that arises to the brand out of that. We wanted them to know that we would be there for them when they needed us. (Founder 1, personal communication, November 2015)

His habitus as CEO of a services company made him habituated to a desire for excellence in customer service. Vikas quickly put together a round-the-clock support service from the offshore location and had product engineers train the support staff. The results were rewarding for the firm:

Our tech support, quite surprisingly, became something of a differentiator for the product, and a revenue earner. Customers loved the ability to get online and ask questions. Our customers had prior experience with other companies that didn't necessarily provide that level of human attention to these customers. (Founder 1, personal communication, November 2015)

As this example shows, the founder's disposition toward customer service excellence was activated in the presence of product users, and the level of service it generated exceeded user expectations in a way that made distance less relevant.

This section showed that improvisation was shaped by the founder's habitus. Since improvisation is a special type of innovation in which there is no planning (Miner et al., 2001), founders' habituated ways of thinking, feeling, relating, and acting influenced it significantly. In all the examples cited in this section, the founders' acquired dispositions—habitual bootstrapping, customer orientation, diffidence toward venture

capital, propensity for deal seeking, and desire for service excellence—led them to improvise as events unfolded, without planning.

Founders Improvised Differently as Dispositions Evolved

Over time, founders improvised differently as dispositions evolved through their engagement in business. Two examples of dispositional changes are presented: (1) David's acquisition of a strategic disposition and (2) Peter's growing disposition toward advantage-maximizing while limiting risks in deals.

David describes his disposition at startup toward much of his decision making at DavidCo as “scrappy” or “strategic with a small s” (Founder 3, personal communication, December 2015). He describes his business during its early few years as “a scrappy little startup” (Founder 3, personal communication, December 2015). The PC-based software industry was in its infancy in all respects, including marketing: “Everyone was making things up” (Founder 3, personal communication, December 2015). This piecemeal approach was evident in how they stumbled upon an advertising message for their product. According to David, one day his partner was walking down the street in Palo Alto and passed a shoe repair place with a sign that read: “Three out of five people who pass this sign need their shoes fixed” (Founder 3, personal communication, December 2015). The founders promptly put together a postcard campaign with a similar message advertising their product: “Then we began running these ads with the same theme, and it was very effective. Remember, we were first to the market” (Founder 3, personal communication, December 2015). This example evidences scrappiness in that it is characteristic of the way things were thrown together to achieve an end.

In the years that followed, DavidCo became a market leader and faced competition from other companies that tried to emulate them. Through these years, David and his partner learned the basics of competitive strategy and applied them in business on a regular basis. As the year 2000 approached and the dotcom bubble started forming, David thoughtfully considered the economy, realized the increased competition, and made a decision to merge with a larger company. He then designed a strategic product that helped attract merger partners:

So, I got the idea of this product ...called CBT Link. And it was nothing more than a piece of software that would read one of these CBT launching systems database, ... and import it into a RecordKeeper database. ... and the strategy worked beautifully. All of a sudden, ... people were calling Bob, ... the same people who wouldn't return his phone calls. Because these CBT guys would try to go in and do big deals to sell their content, and ..., the sales objection was, "Well, we won't consider you unless you work with RecordKeeper." (Founder 3, personal communication, December 2015)

This example evidences that over the course of the founder's time with the company, he developed an additional disposition to act strategically. The presence of an environmental cue—the emergence of venture-funded competition—activated this disposition. The resulting improvisation was a product that ultimately generated the interest he wanted to see from merger partners.

Another example that illustrates how the addition of a new disposition triggers a different improvisation in the presence of situational cues comes from case 2. At startup, Peter was predisposed to deal-seeking: He would seek out deals as he encountered situations. When he sold his training video business to a large company, he signed a non-compete agreement. Soon after that, he encountered a company that sold paper-and-pencil self-assessments:

And so we acquired the assets of that little company, and then that's when we set out and I came up with the idea of what if we could take and create a CD-ROM that had all of this stuff on it? And because my non-compete specifically said I could not do video tape – it did not say I could not do video delivered by CD-ROM, we envisioned ... this new product... that also had video...(Founder 2, personal communication, January 2016)

In this way, Peter sought an opportunity to enter the CD-ROM-based HR content distribution business that utilized his background knowledge in video by exploiting a loophole in a non-compete agreement. That was in 1997. By 2008, several iterations later, the product had morphed into a leading hosted HR application, and PeterCo developed a large base of users in the government, which was generating around 55 per cent of their revenue. By this time, Peter had developed a sizeable company, and he became habituated to thinking in ways that maximized advantage at acceptable risks.

That's when we had the big recession again and we had made a conscious effort to shift out of government because other companies were coming in, making inroads, and we had been late in our release of that product. So I had gone back to my team and said, "If the government ever goes away, it's a knockout punch for us. So we're going to make a concerted effort to go back into the corporate market." (Founder 2, personal communication, January 2016)

Shaped by the dual dispositions of exploiting what the company had without jeopardizing its future, Peter came up with a brilliant improvisation. Instead of building new product features that the corporate market might need, he selected the option to position the existing product as a solution for delivering training content to what he termed the 'external enterprise,' which might include channel partners, suppliers, and customers. The hosted-only model of software delivery made PeterCo ideal for the external enterprise, because the server was not behind the enterprise firewall and therefore it was a relatively straightforward matter to allow access from the outside. For

validation of this idea, he simply had to see what his customers were already doing: “Google used [our product] for their marketing training. Dell used it to sell most of their online training and to schedule their classroom training” (Founder 2, personal communication, January 2016). These cues were enough for Peter to know that his product would spawn and dominate the external enterprise market, as it eventually did.

Peter’s habitual pattern of maximizing advantage in a deal while limiting risks—which led to the improvisation described above—was again evident in the way he negotiated private equity financing. He not only raised the funds he needed by giving away a certain portion of equity, he also made a provision for more: “As a part of our agreement with [private equity firm], we had the right to go out and raise [x] million more dollars” (Founder 2, personal communication, January 2016).

These examples evidence how Peter’s dispositional toolkit grew over time. From his deal-seeking disposition, the toolkit grew to include additional dispositions that led to advantage-seeking and risk-limiting behaviors when activated by competitive field forces. This change induced him to improvise in different ways in the later days of the company.

As this section shows, in performing practices, the founders’ entrepreneurial habitus shaped the way they improvised. Their improvisations—the clever advertisement, the CBT Link, the CD-ROM, the external enterprise positioning, and the VC term sheet—were all deliberately chosen actions, unlike adaptations, which are adjustments of a system to external conditions. These founders were different from regular CEOs—non-founder individuals that join companies as chief executive officers—in the way they

influenced the growth trajectory of the firm. What made the founders different was their entrepreneurial habitus—with all the dispositions they had acquired through their history of entrepreneurship—that shaped how they improvised. Improvisations set in motion transformations in the firm, and these transformations influenced the growth trajectory of the firm.

Finding 3. Mutual Constitution of Founder and Firm

Research Question 3: How do tech founders and firms coevolve?

Founders and firms coevolved through the transformations they underwent that were mutually constitutive. The reciprocal shaping of founder development and firm growth took place simultaneously as well as over time. This section presents two prototypical patterns of founder-firm coevolution in the entrepreneurial tech firms studied that evidence mutual constitution: (1) discovery of product-market fit, and (2) founder-led human resourcing. Each prototypical pattern of founder-firm coevolution entailed a transformation of the founder entwined with an organizational change. Although I noticed other prototypical patterns, I elaborate these two patterns because informants mentioned them as the patterns that changed the founder most. These patterns did not necessarily occur in any particular sequence, nor were all patterns necessarily present within the lifetime of a firm. Therefore, each pattern may be treated as an elemental arc, so that the trajectory of founder-firm coevolution in a particular firm includes multiple instances of such arcs. The evidence for each prototypical pattern is presented next, together with the transformations experienced by founders. For analytic purposes, the focus is on founder ontology, because practices fundamentally change founders as

people. My goal was to go beyond what they came to know by understanding who they became. Therefore, this transformation of founders through practice is analyzed in the cognitive, relational, and psychological dimensions.

Simultaneous Mutual Constitution: Discovery of Product-Market Fit

Founders and firms coevolved through transformations that were mutually constitutive simultaneously. This happened through their entwinement in practice. In this section, I present evidence for a prototypical pattern of mutually constitutive coevolution in which the simultaneous transformations of the founder and the firm were particularly pronounced. The firms in this study found their early product-market fit through such steps as: (1) witnessing product usage scenarios, (2) discovering target customers, (3) modifying product based on the feedback from early users, and (4) finding and articulating a compelling reason to buy.

Witnessing product usage scenarios. In this section, I explain founder development that occurred while witnessing product usage scenarios. Initially, the founders' attention was product-centered: "We called it P3, because it had three components—one part was the assessment, second part of this was these little video files, and ... a course that would be self-paced" (Founder 2, personal communication, January 2016). As the founders watched customers use their products, their attention became customer-centered, allowing them to better understand the affordances of their product: "with RecordKeeper, we were suddenly saving a person oodles of time" (Founder 3, personal communication, December 2015). As different customer segments used their products differently, they became attuned to study segment-specific product usage

patterns: “Not limiting InteractivePlus usage to e-learning courses, these customers used it in novel ways: in class, for homework, and as supplementary materials” (Founder 1, personal communication, November 2015). This newly developed, customer-centered attention allowed them to be sensitive to nuanced customer needs: “HR buyers were scared to death that online learning was going to take their job away. So I said, how can I make these HR buyers will feel more comfortable making the transition...” (Founder 2, personal communication, January 2016).

While the founders were undergoing these transformations—customer-centered attention, enhanced understanding of product affordances, and sensitivity to nuanced customer needs—corresponding changes appeared in the firm simultaneously. As Peter became habitually customer-centered, the customer’s voice became an enduring influence on the product roadmap: P3 was scaled down to a third of this functionality because that’s what customers cared about, new tracking and bookmarking features were added on customers’ request, and the product became compatible with other sources of HR content to which customers were accustomed. As David understood what RecordKeeper was capable of, the company immediately canned the other two products: “We became and always remained a RecordKeeper company for 16 years” (Founder 3, personal communication, December 2015). Peter’s sensitivity to the phobia HR buyers experienced was mirrored in the user interface design of the product. “Our product was a virtual training center. It mimicked the real life training center” (Founder 2, personal communication, January 2016).

Mutual constitution through practices explains this simultaneous transformation in the founder and the firm. I illustrate this with the second example above, which concerns the RecordKeeper product. In the early days of DavidCo, David was developing three products in parallel, with the implicit assumption that Applicant Manager would be their primary product. David was the software developer, and his partner was the expert who was considered knowledgeable about the market. Thus, the practice of product development combined elements contributed by the founder, the firm, and the environment: David's programming expertise, his partner's domain knowledge, and the tools of software development David used. Once David started showing demos to their prospective customers, an additional element entered the frame: practical knowledge of product usage scenarios. This element contributed by customers—part of the firm's external environment—transformed other interconnected elements and changed the practice of software development. The change had simultaneous consequences for the founder and the firm entwined through the practice. David's motivational knowledge broadened beyond enjoying software development: The dramatic time savings that RecordKeeper afforded for customers in ways he had not thought of earlier motivated David to focus on it further. It also started habituating him to learn how customers used his products, because he realized that he had not been able to anticipate what the product could do before he witnessed usage. The consequences for the firm were simultaneous and equally dramatic. Its product line was pruned, leaving focus on one product. RecordKeeper became its enduring flagship product and also became the firm's identity.

Discovering target customers. As founders experimented with product-market combinations, their idea of opportunity-seeking became inseparable from opportunity enactment: “So you have to make decisions. Do I put my toe in the water and see about that little path down that way?” (Founder 2, personal communication, January 2016). As they enacted opportunities, they became sensitive to environmental cues. For example, reflecting on how they had misunderstood their target market when they thought small companies would buy their product, one founder observed:

Our first sale was to IBM Canada. Our second sale was to McDonnell Douglas. Our third sale was to Buick. There was a pattern. It emerged instantly. And the only real change it made was that we now recognized that we needed to appear to these companies as being a little bit more substantial than we were. (Founder 3, personal communication, December 2015).

The IBM purchase appeared serendipitous: “We had not even shipped a demo kit to the IBM guy” (Staff in case 3, personal communication, December 2015). Yet, an unexpected customer purchase invited reflection on the part of the founder: “We reasoned that for small companies maybe training recordkeeping is not such a challenge. It must be the medium and large ones that get a return on investment on something like RecordKeeper” (Founder 3, personal communication, December 2015).

The founders explained their learning as a situated process. According to one founder, “In the beginning, you’re walking around, hoping somebody will buy something. As soon as somebody does, you look for other people like them” (Founder 3, personal communication, December 2015).

Founders learned to expect customers to spread the word and help in discovering other customers, as was the case with Vikas: “Every trade show that you would attend,

you've got two more customers in house, walking around, socializing the fact that they are your customer, and oh, you should go see these folks or see the latest thing” (Channel Partner in case 1 to Founder 1, personal communication, January 2016). Realizing that the chances of target customers discovering the firm’s product were particularly high at industry conferences, Vikas made it a practice to participate in these events regularly: “You kept showing up everywhere. Every show we were at, you were at” (Channel Partner in case 1 to Founder 1, personal communication, January 2016).

The failure to discover target customers also had consequences for the founders. “David and Bob felt chastised and humbled by the failure of the TRA product” (Staff in case 3, personal communication, December 2015). David’s own takeaway from the TRA experience was that he became used to asking from time to time: “For every incremental dollar available to invest, am I better off investing it in this new idea, or am I better off investing it in our main product?” (Founder 3, personal communication, December 2015).

These transformations in the habituated ways of thinking for founders—trying things out to see if they happen to be opportunities, becoming sensitive to environmental cues, getting used to learning in practice, enabling their customers to discover them, and prioritizing investments in product ideas—were accompanied by transformations in the firm at the same time. For example, soon after the IBM Canada order came through, the telecaller had a sign posted next to her workstation in large letters that said, “We are big” (Staff in case 3, personal communication, December 2015). The surprise customer purchase animated moves in the company to appear the right size: “David told me never to refer to myself by first name on the phone. I had to say I am Linda Bradey” (Staff in

case 3, personal communication, December 2015). The firm's market plan pivoted and they made a determination to only target medium to large customers: "Almost every customer we had throughout our history was a medium-to-large firm" (Founder 3, personal communication, December 2015). Even when a product-market fit was not tenable, the firm benefited from the resulting clarity: "So we dropped the Tuition Reimbursement product and focused on RecordKeeper" (Founder 3, personal communication, December 2015). Once the company had these large customers, they could showcase them: "We were able to hold MCI up as a shining example" (Founder 3, personal communication, December 2015).

For David and DavidCo, the simultaneous transformation happened through the practice of sales. As large customer after large customer started signing up for their products, the practical knowledge of the company's market set off changes in the sales practice. A lasting change for the founder was that he became habituated to sensing, and making sense of, environmental cues. Accompanying lasting changes for the firm were: (1) employee behaviors in the company were transformed; (2) the firm's marketing focus shifted; (3) failing early clarified the path forward; and (4) the company could showcase customers it had won.

Modifying product based on the feedback from early users. The discovery of product-market fit changed the founders' relational processes, particularly when they started receiving user feedback. Recognizing that user inputs were a critical component of product design, they allowed users to shape their innovation, transforming how product innovation was accomplished: "We honored the customer's suggestion and

packaged the Interactivity Builder into a separate product” (Founder 1, personal communication, November 2015). Changed relational processes had lasting consequences beyond innovation: “HistoryBuilder came out of the need a manager at MCI had to consolidate training records. The manager eventually joined us, and we remain good friends to this day” (Founder 3, personal communication, December 2015). Founders were so habituated to customer feedback that when a new product failed to engage customers early, they became uncomfortable: “As we continued building this other product in the absence of customer feedback, something didn’t feel right” (Founder 1, personal communication, November 2015). On the other hand, when a customer pointed out what a product could not do, Vikas welcomed the conversation: “I also learned that when a customer asked for something that your product does not do, don’t despair. Right there, there might be a better idea coming your way” (Founder 1, personal communication, November 2015).

While the founders were undergoing these relational transformations—allowing users to shape innovations and building enduring relationships—corresponding changes appeared in the firm simultaneously. Incorporating customer suggestions added to the firm’s intellectual property: In the case of Interactivity Builder, honoring the customer’s suggestion had a significant consequence for the firm, because it led to the launch of a new product. Successive cycles of product development added further to the firm’s intellectual property: “Once you have data, you can do stuff with it. HistoryBuilder led to Analyzer. Now we could run all kinds of reports” (Founder 3, personal communication, December 2015). Enduring relationships led to additional consequences for the firm: As

David's vendor-customer relationship with the manager at MCI evolved into a friendship, the founder was able to attract this manager to join his firm. The firm could use the manager's experience as a power user of RecordKeeper: "After I joined there, I looked after customer training and consulting" (Customer in case 3, personal communication, January 2016).

Together, these examples illustrate how a customer's mental and emotional activity—articulating an expectation from the firm and its products—touched off changes in other elements of product development practice. The changes led to the creation or reconfiguration of the firm's technology, a change in the founder's relational disposition toward customers, and a change in the firm's intellectual—and in the latter case, human—capital.

Finding and articulating a compelling reason to buy. In discovering product-market fit, founders also experienced psychological consequences—including emotional and motivational changes—as they iteratively refined their product's value proposition. Over the course of time spent finding and articulating a compelling reason to adopt the product, founders developed pride in their products: "For quite a few years, when anybody matched our price, we raised it. Not a lot. Just enough to say: we're worth a premium" (Founder 3, personal communication, December 2015). Through repeated iterations of market messaging, they identified with and internalized the promise of the product: "So that interpretation of the name finally stuck. InteractivePlus was the way to add interactivity" (Founder 1, personal communication, November 2015). The discovery of a product-market fit had motivational consequences for the founders: "Early on we

were all a little apprehensive. And then, once we were awarded the business, then we all became very focused on it. Peter got very involved with the federal space” (VP of Sales, case 2).

While the founders were undergoing these psychological transformations—development of pride for the product or the firm, identification with its promise, and motivation to make it successful—the firm changed simultaneously in important ways, qualitatively and quantitatively. Successive iterations refined the marketing message of the firm. The motivational elements triggered by a well-articulated and validated value proposition influenced not only the founder, but also other actors: The sales force and others involved in product launch also experienced the drive to create market success. Although these changes were immediate, a quantitative change that manifested subsequently was the growth in customers and therefore, firm revenues. According to Vikas, the launch of InteractivePlus heralded significant growth: “That year we grew 100 per cent. In the years that followed, we grew 175 per cent, 100 per cent and 52 per cent” (Founder 1, personal communication, November 2015).

The examples cited here illustrate the emergence of an important practice element that can be described as the practical sense of what message will resonate with customers. Through iterations, as this element of practical knowledgeability became fully formed, it unleashed significant emotional and motivational changes in the founder and other employees of the firm and added to the firm’s marketing repertoire at the same time.

Together, all these examples illustrate that the practices that led to discovering product-market fit—marketing, sales, and product development—generated and

regenerated the organization, shaping the firm's growth while also transforming the founder ontologically. In all these examples, the founder and the firm were entwined through a practice to which the environment contributed a new element. Other interconnected elements of the practice mutually adapted to this element, transforming themselves and regenerating the practice. This transformative integration of elements in practice had consequences for the founder and the firm, who were carriers of these elements. Therefore, the founder and the firm were transformed simultaneously. Founders experienced transformations that entailed habitual ways of thinking, feeling, relating, and acting. Firms experienced transformations that were quantitative—such as assets, customers, and revenues—as well as qualitative, such as market positioning, human capital, and employee motivation.

Mutual Constitution over Time: Founder-Led Human Resourcing

Founders and firms coevolved through transformations that were mutually constitutive over time, following a temporal sequence. In such reciprocal transformations, change in one changed the other that in turn acted back on it. For example, firm growth led to founder development that led to firm growth. Alternatively, founder development led to firm growth that led to founder development. In this section, I present evidence for *founder-led human resourcing*, a prototypical pattern of mutually constitutive coevolution in which the consecutive transformations of the founder and the firm were particularly pronounced. I analyze three practices that form part of this pattern: (1) attracting talent, (2) placing employees in new work roles, and (3) developing employees.

Attracting talent. The challenge of inducing talented employees to join a new venture that had limited financial resources and presented high career risk forced founders to learn how to attract people: “Large companies providing services dominated the IT industry in Indian cities, so it wasn’t easy for people to leave safe jobs and join a product startup” (Founder 1, personal communication, November 2015). Founders developed routines that allowed them to reach out to prospective key employees to attract them:

I was not looking for a full time job. I wasn’t sure whether to join, but when I received that mail I was very impressed that the chairman of the company had articulated so clearly what I could look forward to. It was motivating, inspiring, exciting to receive a personal note from the chairman of the company. (Business Manager in case 1, personal communication, December 2015).

This example evidences the routine Vikas developed in which he wrote a personal message to prospective candidates explaining how they could make a difference.

Founders also accommodated individual needs of their prospective employees: “And I could only work part time, and David was okay with that... and he made sure I had insurance as well” (Staff in case 3, personal communication, December 2015). In this example, by showing sensitivity to each individual’s unique needs, the founder personally signaled to the prospective employee that the firm cared.

Founders learned to influence candidates through the way they conducted themselves during interviews. The ways in which they used their bodies could convey and imprint signals on interviewee’s minds:

And then they took me back to David's cubicle and introduced me to him. And I'm telling you, I've never seen anybody in business so laid back. He has this big old chair that – comfy chair that reclined. I swear he had his feet up on his desk,

and I thought, well there's laid back startup in action. (Staff in case 3, personal communication, December 2015)

Another founder's overall demeanor during an interview deeply impressed a senior candidate about the founder's involvement in the business:

My first interaction with Peter was over a breakfast and he struck me as a very professional individual and obviously, the CEO and President, but I think he was very involved in the business, so very hands on, very involved... (VP of Sales in case 2, personal communication, January 2016)

Founders' behaviors during interviews also conveyed attributes of the workplace that resonated with the talent: "Vikas was very grounded, unlike [some founders] that are over the top, more stylish than they need to be. This felt very comfortable. People spoke their mind here" (Business Manager in case 1, personal communication, December 2015). Founders became habituated to describing the difference candidates could make: "He wanted me to increase field sales organization, evaluate the inside team, and make changes if necessary" (VP of Sales in case 2, personal communication, January 2016).

As the founders' efforts in hiring employees bore fruit, their firms grew. With growing hiring needs, firms could no longer rely on founder's personal effort alone. The firms established new practices that would aid in hiring. For example, once PeterCo started to work with advanced technologies, they needed to attract some of the best technical talent. The firm needed to project a cool image in the talent market. This need prompted the firm to use other ways of attracting talent:

And we had people who would come to us – we ran the agile programming group for the state of Iowa. So when we do the conference they'd all come to our headquarters to learn from us. So it was a massive move. (Founder 2, personal communication, January 2016)

As this example shows, the firm devised a new practice for attracting candidates—a goal met using the founder’s personal efforts alone when the firm was small. By sponsoring and hosting the agile programming group—a community of software developers, development managers, and thought leaders—PeterCo established a new practice that helped them build their image in the job market and ultimately attract engineering talent.

As the firms’ headcounts started growing, founders were distanced from interviewing every candidate, so not all talent was visible to founders. Lacking this visibility, and aware of the difficulty in finding new people, founders devised habits that would help them discover talent within the firm. One founder relied on his HR chief to provide the connection with employees that would let him discover excellence:

Peter had a business to run, but he also wanted to have that personal affect and touch with people, so I would communicate with him that hey, so and so did something in tech support with a client that was good. It would be great if you stop by and talk to them, or send them a quick email or note. (VP of Human Resources, case 2)

Together, these examples illustrate the reciprocal shaping of founder and firm in the practice of hiring new talent. At startup, the firm’s unique situation induced the founder to habitually act in ways that assisted in attracting talent. Over time, as the founder succeeded in attracting people, the growing scale of the firm made the founder’s personal involvement untenable, causing the hiring practices to change and become more founder-independent. This change in the firm caused the founder to then be more concerned with identifying employees for development or new roles rather than attracting external individuals as new employees, and therefore triggered the need for founders to

maintain some visibility into the firm's talent pool, which induced them to devise ways of discovering talent within the firm. In this way, a series of practice changes—founder attracting talent, founder-independent hiring, and internal talent discovery—unfolded consecutively so that founder development and firm growth were mutually constitutive over time in practices pertaining to new employees.

Placing employees in new work roles. As founders assigned and reassigned employee work roles, they became better at using human resources effectively. Employee placement in new roles transformed founders by developing their cognition of resource use. Instead of perceiving human resources as entities with fixed attributes, they developed a way of thinking about resources together with situations in which they could be put to use:

Bela was a software engineer by training and you assigned digital marketing to her. This was a new area for the company, and indeed a new frontier in the industry at that time. Although this was an unusual horizontal move, she accepted it gladly and it turned out excellent for everyone.” (Co-founder in case 1 to Founder 1, personal communication, November 2015).

Vikas explained this move by saying that he saw this software engineer more as a colleague who was passionate and knowledgeable about the product. According to the founder, the digital marketing role involved creating an online presence for the product: developing and publishing content about the product and its use, running search advertisement campaigns, maintaining a web site, and managing an online user community. “I had worked extensively with this person during product development, and had a strong working relationship that would allow the two of us to work together as the firm's focus shifted to marketing” (Founder 1, personal communication, November

2015). This example shows that the founder developed a way of thinking of people beyond the roles with which they were labeled. He thought of Bela less as a software engineer and more as a trusted colleague that knew the product well and was passionate about the product. When he imagined how effective she might be in digital marketing working with him, he initiated that unusual move.

As founders' cognition of resource use developed, they remained alert and mindful to imagine the best use of human resources:

We had one young man who was in technical support. One day, he got a letter from the legal team at Redbox basically suing him... he had gone on and figured out a way to program to see if a movie was at a certain Redbox location... we took it to Peter and Peter said to him, "Okay. We'll take care of your legal fees, but what are you doing here?" Then he turned to me, "We've got a young man here who knows about mobile. Let's start having him work on our mobile piece here." It's difficult to find good qualified people, so you better find out what your employees have. (VP of Human Resources in case 2, personal communication, January 2016)

This example illustrates that the founder became habitually disposed to imagining resources together with the contexts in which they would be most valuable. This disposition was so strong that even when the apparent agenda of this meeting was to get an employee out of trouble, the founder was able to realize that he had encountered a person with a skill and desire for programming who was in a non-programming job. He then thought of a context in which this person's skill and desire could make him a useful resource.

Not all employees accepted such moves willingly, and founders needed to act persuasively to make employees want to embrace the change.

So he asked me if I wanted to come along and be their support manager. I asked him, “What was a support manager,” and he said, “You’ll teach people how to use the computer over the phone.” I’m going, “You’re nuts.” Anyway, then he convinced me. He said, “No, you can do this. What you don’t know, I can teach you.” (Staff in case 3, personal communication, December 2015)

The founder’s assurance of some form of support in the new role allowed this staff member to be convinced about the role. This example also evidences that this event allowed the founder to hone his repertoire of persuasion techniques.

The placement of employees in new work roles had positive consequences for the firms, including employee’s professional growth, enhanced loyalty, and knowledge re-use. To illustrate this impact in the last example above, the person who joined as a support manager grew in that role, stayed for several years, took a break, and came back to the firm. In her words: “I moved in the training and consulting arm which I really loved” (Staff in case 3, personal communication, December 2015).

Not all firm consequences were positive. Sometimes founders underestimated the scale of developmental effort required to support a person in a new position. As founders tested boundaries of flexibility of early employees, they developed an inclination to hire for specialized roles:

And no, we no longer need you to do everything that seems to pop up. We need to put a box around what you do and know that box is taken care of. So that whole need for exceptionally flexible people begins to change, we also start hiring people with specific skills rather than just kind of good people. (Founder 3, personal communication, December 2015)

Together, the examples above evidence how founder and firm shaped each other reciprocally in the practice of placing employees in new work roles. As founders experimented with people in different positions, they developed a way of imagining

resources in the context of their use. When these placements were successful, the firm benefitted and the employee experienced personal growth. When such placement appeared to generate negative consequences, it triggered the need for providing support to the employee. In due course, the founders developed a practical sense of what work could be accomplished by moving people around within the company and what work would need outside talent. In this way, through a series of changes to the practice of employee placement—assigning new roles to current employees, providing support to employees in new roles, hiring people for specific roles from outside—founder development and firm growth became mutually constituted over time.

Developing employees. As founders played a developmental role in the lives of employees, the firms benefitted first in the form of employee development: “I learned how to be a professional. He told me in a kind and gentle, but serious way, to refer to myself with both my first and my last name” (Staff in case 3, personal communication, December 2015). Founders’ input in developing employees had a lasting impact on employees: “I thought I was a pro. But once there, I still had to develop as a leader, operationally, from an HR perspective, and also from a contract negotiation perspective. Peter was instrumental in helping me along that way” (VP of Sales in case 2, personal communication, January 2016). The focus on developing employees benefitted the firm at the time of founder succession. According to a co-founder, mentoring by Vikas made it possible for her to become his successor:

When I became president, I had marketing, engineering, and support added to my responsibilities. I had seen Vikas heading these functions. Through the interactions I had watched, I had been mentored indirectly. When I took over a bigger role, even though I was in charge he was still aware of everything and was

mentoring when needed. (Co-founder in case 1, personal communication, November 2015)

In developing employees, founders themselves developed as mentors and were recognized as such within their firms: “For me, David was a mentor that taught me most of what I know. He taught me how to ask the right questions. He taught me how to be confident in myself” (Staff in case 3, personal communication, December 2015).

Developing employees transformed founders’ relational processes. They learned to develop trust with employees:

I think over time certainly the trust factor was very big. And I think we got very comfortable being able to talk to each other, work with each other, and understand our differences, but being able to take our differences and put them all together and be very very effective at what we collectively did. (CIO in case 2, personal communication, January 2016)

The emotional bonds founders formed with employees as they developed employees enhanced the respect they enjoyed within their organizations: According to a customer, “They kind of treat Vikas like he is the Grandfather of the family” (Customer in case 1, personal communication, January 2016).

As founders developed emotional bonds with the employees they mentored and developed, these individuals developed affinity to the firm: “there are very few people that I have worked with in the past that I would say I would love the opportunity to do so again, but I’d put Peter in that category” (CIO in case 2, personal communication, January 2016). As a result of high employee loyalty, firms had low attrition:

I will tell you that those of us who were there from the beginning, we had ... practically zero turnover. And ... those of us who were there at the very, very beginning ... refer to that time as Camelot. It was just a golden time. It was by far

and away the best company I ever worked for, bar none. (Staff in case 3, personal communication, December 2015)

For this employee, the startup time evokes the symbolism of Camelot, King Arthur's capital, in which truth, goodness, and beauty reigned. Such strong affinity with the company explains the long tenure this employee had at the company.

Together, these examples show how the practice of developing employees involved the reciprocal shaping of founder and firm over time. The developmental role founders played in the lives of employees impacted the employees' professional lives. As a result of developing employees, the founder's mentoring and relational skills grew over time, as did their stature in the company. In due course, the bonds founders formed with employees resulted in affinity and employee loyalty, impacting employee retention. In this way, founder development and firm growth were mutually constitutive over time in practices pertaining to employee development.

Together, these examples illustrate that the practices pertaining to *founder-led human resourcing*—such as hiring new employees, placing employees in new work roles, and developing employees—changed over time, setting off a sequence of alternating transformations in the founder and the firm. As these examples show, founders experienced cognitive, relational, emotional, and behavioral transformations. These transformations shaped, and were shaped by, a range of transformations in the firms. Quantitative changes in firms included growth in employee count and lowering of attrition. Qualitative changes included hiring practices, employee satisfaction, and employee identification with the firm.

As this section shows, founders and firms coevolved by reciprocally shaping the transformations in each other; neither had a unidirectional influence. Founder development and firm growth were mutually constitutive, whether simultaneous or temporally sequenced. The transformations in founders and firms were set off by changes in practices as diverse as product development, marketing, hiring, and employee development. Practice changes occurred with the transformation of elements that the founder, the firm, and the environment contributed to practices. This finding explains specific transformations in founders and firms through prototypical patterns of coevolution—such as *discovery of product-market fit* and *founder-led human resourcing*—that are characteristic to tech entrepreneurship. This finding evidences the mutually constitutive relationship between founder development and firm growth.

Findings Summary

This chapter presented three key findings: (1) Firms influenced the development of founders by using founders as context-specific resources and by placing founders in changing relationships with others; (2) Founders' improvisation—regulated by their evolving habitus—influenced firm growth; and (3) Founders and firms coevolved in a mutually constitutive relationship simultaneously as well as over time. Two prototypical patterns of founder-firm coevolution were highlighted: (1) discovery of product-market fit, and (2) founder-led human resourcing. In conclusion, the study found a reciprocal developmental relationship between tech founders and their firms that explained their coevolution. In the day-to-day practices of business, founders acted in ways that influenced the firm's growth trajectory, and the growing firm in turn acted back on the

founders to influence their development. In the firms that were studied, the founders and their firms followed patterns of coevolution that precluded lasting gaps between firm growth and founder development.

Chapter 5: IMPLICATIONS AND CONCLUSION

In this chapter, I discuss my model and the implications of my research. I describe the contributions of my research to theory, outline its implications for practice, point out its limitations, and suggest directions for future research.

A Grounded Theory Model of Founder-Firm Coevolution

Figure 5.1 summarizes the process model derived from the data using a grounded theory approach.

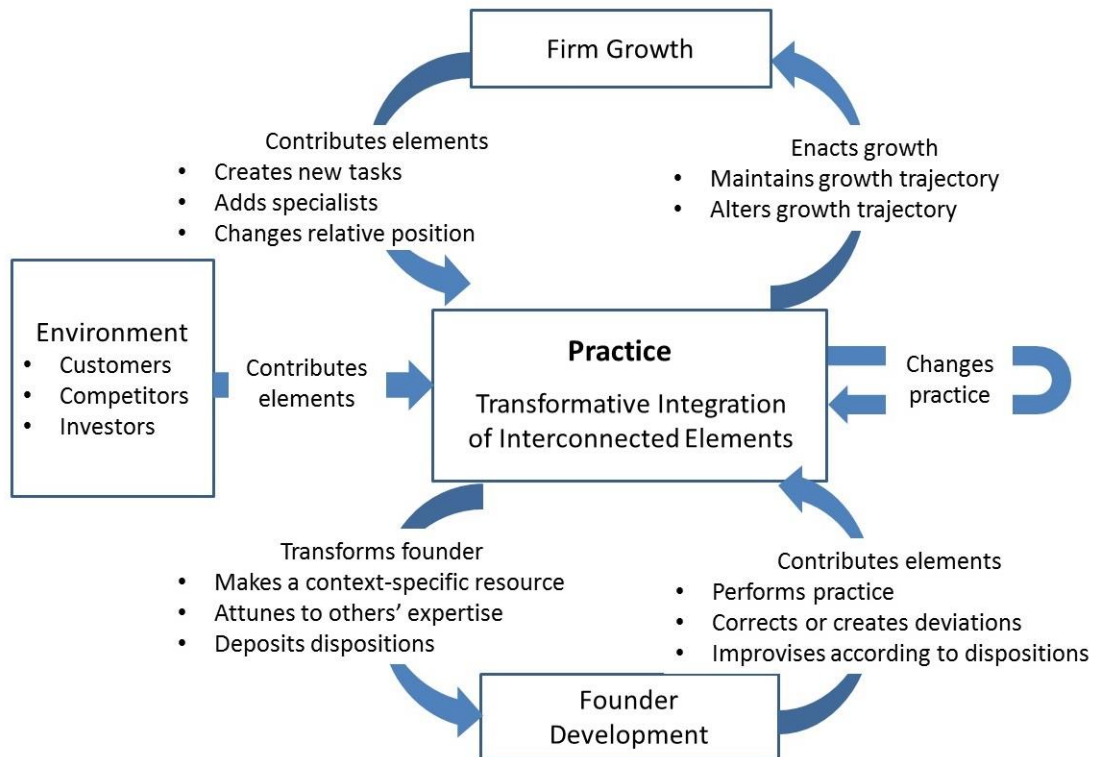


Figure 5.1. A process model for tech founder-firm coevolution.

The model foregrounds a firm's practices to examine the relationship between founder development and firm growth. Central to the model is the principle of mutual

constitution, in which certain phenomena exist in relation to each other (Feldman & Orlikowski, 2011). The model describes: (1) the influence of firm on founder development; (2) the influence of founder on firm growth; and (3) the coevolution of founders and firms in practice.

The Influence of Firm on Founder Development

With firm growth, the conditions under which business practices were carried out changed. Growth created the need for accomplishing new tasks. For example, the growth of a firm in this study led to institutional funding, necessitating rigorous board governance that was new to its founder. As another founder discovered, once his team grew beyond a handful of employees, regular town-hall meetings became necessary.

As firm growth created new tasks, founders became habituated to offering themselves up for new tasks and became “mutable sources of energy” (Feldman, 2004, p. 295)—resources created in context-specific ways. Thus, a short window of opportunity for a merger made a technologist founder become the deal-maker; not having legal help in the company induced another founder to be the attorney for contract negotiations; and yet another founder entered the speaker circuits and emerged as a market thought leader once his president took over day-to-day business operations. Over time, contextual factors induced founders to become disposed to taking new roles, re-learning in their current roles, and deepening learning through practice.

When the new tasks entailed the addition of specialist individuals to the firm, founders became attuned to other people’s expertise. On hiring a technology-savvy CIO, a founder with a relatively basic knowledge of technology found a way to engage in

meaningful dialog with him and his team: Customer needs became their shared concern. Another founder, who had never managed a large sales force, discovered ways to work with sales managers as the sales force grew: Enhance transparency using CRM, yet tolerate some ambiguity.

Growth also changed the firm's position relative to other actors in the firm's environment such as customers, competitors, suppliers, and investors. When the founder was placed in changing relationship with others, it led to a change in founder habitus—a system of acquired dispositions. On being recognized among the fastest growing companies in the USA, one founder experienced a sense of being grown up as a company. When investors started funding a large number of internet companies, and as buyer preferences started shifting toward funded companies, the same founder became disposed to finding a way to merge the company. Winning a competition with a newly launched product gave another founder a sense of his firm's competitive position in the field relative to competitors, which enhanced his confidence.

Firm growth changed founders ontologically, transforming their habituated ways of thinking, feeling, relating, and acting. For example, founders changed the way they allocated attention, developed pride for their products, became sensitive to what customers had to say, and became habituated in conducting themselves in ways that reinforced their stature.

The Influence of Founder on Firm Growth

While performing practices, founders contributed elements that were necessary for practices to be performed. For example, in the practice of attracting talent, a founder contributed bodily activity to communicate professionalism and optimism.

When the performative aspect of practice compensated for any deviation from the plan, it maintained the firm's growth trajectory. For example, a founder noticed that technical support staff were inadvertently making some customers wait longer than usual—a deviation from the business model which treated all customers as equal—and corrected the deviation by creating incentives to conclude the conversation when someone was waiting. In this way, the founder maintained growth trajectory as specified by the business model.

When the performative aspect of practice entailed an improvisation that deviated from the plan, over time, the firm's growth trajectory was altered. For example, when a suggestion by a customer led one founder to reconfigure his product line, it cannibalized the firm's flagship product but developed market leadership and spectacular growth in another product category.

Founders' evolving dispositions regulated their perception and action in new ways. The disposition that one founder acquired through years of software development was to be binary when it came to decisions: he would really push people to decide one way or the other. This disposition was activated when the firm needed to choose between two products in which to invest: he shut down one product even though it was an award winner, because it did not justify the incremental dollar better than the other product.

The improvisations founders performed in practice were regulated by their habitus, and therefore they were subject to their evolving dispositions. A founder whose relational disposition toward customers evolved with time became habituated to regarding them as resources for product ideas. When increasing threat in one market induced him to reposition the product in another market, he improvised in a way consistent with this disposition: he got his repositioning idea from how customers in the new market used the product.

Founders' influence through practice changed the firm qualitatively, transforming products offered, markets served, and employee capabilities developed. It also changed the firm quantitatively, in terms of assets, customers, headcount, and revenues.

The Coevolution of Founders and Firms in Practice

Practices consisted of elements that were contributed by the founder, the firm, or the environment. For example, in the sales practice, a founder worked together with his partner on strategic planning to develop a sales forecasting model, thus contributing a form of mental activity to the practice of planning. Another founder needed to travel to a customer location to make a presentation. Therefore, he contributed a form of bodily activity to sales practice. A firm used a customer service ticketing system—and therefore contributed the use of a technology—that allowed a founder to track metrics in the support practice. In an example where the firm contributed background knowledge to the governance practice, two senior executives showed a founder the ways of dealing with an outside board member. A founder who understood the needs of buyers in a particular market contributed know-how in the sales practice. An anxious investor contributed a

state of emotion to board meetings. The environment contributed motivational knowledge when a firm adopted a delivery model that was based on one of the beliefs held by a highly regarded industry personality.

Practice elements formed an “interconnected block” in which a change in any element led to a reciprocal change in other elements. This transformative integration of elements explained the simultaneous coevolution of founders and firms. For example, *discovery of product-market fit* evidenced a prototypical pattern of mutually constitutive coevolution in which the simultaneous transformation of founder and firm was particularly noticeable: As customers provided valuable inputs during product trials, the founder’s relational transformation occurred together with a growth in the firm’s intellectual property.

The performance of a practice led to the changes in the practice itself or in other practices, the addition of new practices, or the cessation of existing practices. This mechanism explained the coevolution of founders and firms in a temporal sequence, over time. For example, *founder-led human resourcing* evidenced a prototypical pattern of mutually constitutive coevolution in which the consecutive transformation of founder and firm was particularly noticeable: As founders developed employees, their own mentoring and relational skills grew over time, and the bonds founders formed with employees resulted in affinity and employee loyalty, impacting employee retention.

Contributions to Theory

The grounded theory developed through my study contributes to understanding the processes related to the development of tech founders and the growth of their firms in

at least four ways: (1) it explains—using two prototypical patterns—the coevolution of founders and firms through mutual constitution; (2) it explains founder development as a process situated in the context of the growing firm; (3) it illuminates how founders influence firm growth through practice; and (4) it reframes entrepreneurial leadership in a practice perspective. My study also contributes to practice theory by outlining a developmental perspective on habitus. Finally, my research is based on autoethnography and adds polyvocality—more participants speaking in their own voices—because it brings the voice of an entrepreneur to organizational studies.

Founder-firm Coevolution

This study contributes to entrepreneurship literature by building theory about the coevolution of founders and firms. The study offers a grounded theory model in which founder development and firm growth are mutually constitutive through their entwinement in practices. The model offers testable propositions for entrepreneurship researchers.

Extant literature in entrepreneurship that addresses entrepreneurial development (e.g., Kempster & Cope, 2010; Rae, 2006) or entrepreneurial leadership (e.g., Bagheri & Pihie, 2011; Gupta, MacMillan, & Surie, 2004) treats the individual as the unit of analysis and consequently misses the influence of contextual factors, such as changes in practices as firms grow. Similarly, research on entrepreneurial firm growth that addresses developmental models (e.g., Kazanjian & Drazin, 1990; Quinn & Cameron, 1983) or evolutionary growth models (e.g. Gersick, 1994) takes a synoptic view of firm growth—a view that focuses on the configuration of growth variables as a function of time, which

misses the process of change. According to Tsoukas and Chia (2002), synoptic knowledge “does not do justice to the open-ended microprocesses that underlay the trajectories described; it does not quite capture the distinguishing features of change—its fluidity, pervasiveness, open-endedness, and indivisibility” (p. 570).

In contrast to prior work on entrepreneurial development, this study takes the inquiry of the situated development of founders beyond epistemology—what they come to know—and focuses on founder ontology—who they become. This is an important consideration for researchers in entrepreneurial learning who adopt a sociocultural perspective on learning. In a sociocultural view, learning entails not just changes in knowing, but also broader changes in being (Packer & Goicoechea, 2000).

In contrast to prior research in entrepreneurial firm growth, this study builds an account of the coevolution of founders and firms by including context in the unit of analysis along with the individual. More specifically, it builds a “performative” account, a process-oriented account that is based on definitions of concepts created through practice (Feldman, 2000, p. 622). This contribution is useful for entrepreneurship researchers investigating firm growth because performative accounts, “through their focus on situated human agency unfolding in time, offer us insights into the actual emergence and accomplishment of change” (Tsoukas & Chia, 2002, p.572).

Specifically, this study contributes to entrepreneurship research by identifying and elaborating two prototypical patterns of founder-firm coevolution that highlight two critical aspects of entrepreneurship—opportunities and resources. Through these prototypical patterns, the study examines two transformations that founders and firms

undergo: (1) the discovery of product-market fit, and (2) founder-led human resourcing. Data on the pursuit of product-market fit evidenced that founders and firms were mutually constituted simultaneously and evolved together as practices changed. Data on the appropriation and use of human resources evidenced that founders and firms were mutually constituted over time as practices changed. In either case, a host of transformations occurred in both the founder, who experienced cognitive, emotional, relational and behavioral transformations, and the firm, that experienced quantitative and qualitative changes. By elaborating two prototypical patterns of coevolution, this study underscores the potential for the discovery of additional patterns that will help entrepreneurship researchers more fully describe the coevolution of founders and firms.

Founder Development as Contextually Influenced

My study contributes to entrepreneurial learning and development literature by explaining founder development as a process situated in the context of the growing firm. In its treatment of founder development as contextually influenced, this study stands in sharp contrast to much literature on entrepreneurial development that is dominated by a cognitive view of learning. Cognitively-framed literature construes entrepreneurship to be rooted in the entrepreneur's traits (Sexton & Bowman, 1985), behaviors (Gupta et al., 2004; Swiercz & Lydon, 2002), or cognition (Politis, 2005; Rae, 2006). In its treatment of the individual as analytically separate, the cognitive literature treats the individual as a fixed entity and further construes the individual's relationship with the context as interaction. This assumption limits the ability of this literature to generate insights in which a single person may be constituted as a different resource in different contexts.

Why does prior entrepreneurial learning literature miss contextual influences? Many scholars working on entrepreneurial learning, following a cognitive view, treat learning as a process occurring in the mind of an individual, described by the metaphor of learning as acquisition (Sfard, 2010). Therefore, they make little room for the broader metaphor of learning as participation (Sfard, 2010). The participation metaphor permits the researcher to treat knowledge as an aspect of practice rather than the property of an individual. Context is inseparable from learning in the participation metaphor.

This study therefore draws upon sociocultural theories of learning and human development that emphasize learning as participation (Lave & Wenger, 1991; Vygotsky, 1978). This move overcomes the limiting assumption underpinning cognitive studies that equates entrepreneurial learning with the acquisition of knowledge or skill by the founder. Unlike cognitively-framed entrepreneurship literature, the socioculturally-framed resourcing view (Feldman, 2004) provides a way to integrate firm context into founder development by analyzing both together in a single unit of analysis. Feldman's (2004) notion of resourcing describes resources as “mutable sources of energy rather than as stable things that are independent of context” (p.295). Also, in this view, “Things are only resources while they are being used. It is the combination of thing and use that makes a resource” (Feldman & Orlikowski, 2011, p.1246). In a practice perspective, therefore, a founder is a different type of resource through the use that is made of him or her in specific contexts. Through the practices in a growing firm, the founder encounters such varied contexts: for a founder who was the sole software developer in the firm, the context of his technical work changed when he hired a team. Each context potentially

affords the opportunity for the founder to be useful in a different way. For example, the software developer had to become a manager of the development process in the new context.

In sum, this study accounts for founder development as a process of participating in practice and becoming a context-specific resource in practice. This contribution is significant because it provides a valuable conceptual apparatus for entrepreneurship researchers who want to investigate entrepreneurial learning and development as a situated process in the changing context of a growing firm. This apparatus can undergird further theorizing on how the growth of a firm changes the context and transforms the founder in practice.

Founder Influence on Firm Growth

My study contributes to firm growth literature by illuminating how founders influence firm growth through the performance of day-to-day practices of business. Entrepreneurial firm growth models in prior work take a synoptic view of firm growth. Synoptic accounts treat change as an accomplished event and describe its causal antecedents, consequences, features, and variations (Tsoukas & Chia, 2002). This assumption results in these models conceptualizing growth in terms of the difference between two points, missing the micro-processes that undergird the trajectories they describe. The endogenous change perspective (Feldman & Pentland, 2003) that I use here addresses the process of change, acknowledges internal origins of change, and embraces the indivisibility of change. Instead of dividing firm growth into stages, I provide a performative account of growth that emphasizes activity through which practices are

performed, leading to growth. This approach allows me to study the actual emergence of growth.

The theory of organizational routines as generative systems (Feldman & Pentland, 2003) provides a conceptual framework for addressing the open-ended microprocesses that underlie the change trajectories of firms. According to this theory, routines are conceptualized to consist of an ostensive aspect and a performative aspect. Together, these parts have the potential to effect change as well as stability. The ostensive aspect of a routine includes the task people are trying to accomplish as well as the abstract pattern of events enacted to accomplish the task. For example, in one firm studied, the ostensive aspect of product development was to make the product more configurable, and therefore more useful to a large number of users. The same company engaged in product development to accomplish an entirely different task as they came closer to an exit: to make the product compatible with online systems, and therefore attractive to potential merger partners. The performative aspect of a routine concerns the specific actions taken by specific people at specific times when they are engaged in performing the routine. For example, in the routine of managing sales information, a founder experimented with a server-based CRM system, and the experiment helped by enhancing transparency of sales information.

In practice terms, firm growth consists of multiple tasks and patterns of events that need to be enacted through practices. The pattern of firm growth develops—or firm growth is realized—through the enactment of practices geared toward accomplishing growth. The founder contributes not only to the ostensive aspect of practices—the tasks

and abstract patterns of events that are enacted and developed through practices—but also to the performative aspect, i.e., participating in specific performances of practice. Both aspects are mutually constitutive: “The ostensive aspect enables people to guide, account for, and refer to specific performances of a routine, and the performative aspect creates, maintains, and modifies the ostensive” (Feldman & Pentland, 2003, p.4).

When a founder declared that the firm had made a strategic decision to deliver software in a hosted model, he contributed to the ostensive aspect of practices such as marketing, sales, and product delivery. Employees performed these practices in the name of a hosted delivery strategy. When a particular sales opportunity came up in which a million-dollar deal hinged upon making an exception to this strategy, the founder refused the deal. In this instance, the founder contributed to a performative aspect of the sales practice, which in this case maintained the ostensive. In this way, using the constructs of ostensive and performative aspects of practice, this study builds an account of entrepreneurial venture growth as being enacted through the performance of practices.

My study contributes to the prior research on firm growth by adding a performative account of firm growth in which the entrepreneur contributes through the actual performance of practices. This contribution is significant for researchers interested in the growth of new ventures because it suggests propositions for (1) emergent growth trajectories that are not preordained; and (2) the founder’s role in these trajectories.

Reframing of Entrepreneurial Leadership Using the Practice Lens

My research reframes entrepreneurial leadership in a practice perspective and provides a practice-based explanation for the over-attribution of leadership to founders.

Given the striking parallels in the past development of the research fields of leadership and entrepreneurship (Cogliser & Brigham, 2004), cognitive perspectives have dominated entrepreneurial leadership, emphasizing traits, competencies and learning of leadership behaviors. In treating entrepreneurial leaders as analytically separate from context, these studies miss the recursive influences of context. My research offers a practice-based conceptualization of entrepreneurial leadership. My study showed that when a company's support staff became aligned to the company's business model, it wasn't only the founder's individual accomplishment. Rather, the accomplishment was also a result of the technology that afforded tracking customer wait time metrics, the support manager that would buy lunch when the metrics were met, and the support staff that enjoyed talking to customers.

In reframing entrepreneurial leadership as a distributed process, this research restores the context into the account of leadership. My research challenges the notion of the leader as a heroic individual solely responsible for change. For example, in discovering the product-market fit, founders routinely relied on customers for inputs that sometime significantly altered the roadmap of their products. My research points out how elements such as materials contribute to leadership through practices: A founder conveyed the company mission to employees using a painting, a material artifact. My research also accounts for non-founder actors in the firm and the environment that contribute elements to practices involving leadership. For example, the emergence of competition that tried to emulate the product and business model of a firm allowed the founder to raise prices to signal market leadership.

This study also suggests a practice-based explanation for the over-attribution of leadership described in the literature (Meindl et al., 1985). People attribute leadership to a founder because they think like cognitivists and not in terms of practices and their constituent elements. Informants attributed leadership to founders even when the data analyzed from a practice perspective suggested leadership to be a collective accomplishment. Although a founder explained that his decision to maintain a hosted software delivery model emanated from (1) lack of funds to provide implementation services; and (2) inspiration due to a similar decision by Mark Benioff, the founder of Salesforce, other informants attributed this decision to their company founder's leadership vision. This evidences that people are unlikely to unpack every manifestation of leadership into its constituent elements, which would make them realize that many of these elements come from sources other than the founder, as my research shows.

A Developmental Perspective on Habitus

My research contributes to practice theory by outlining how a developmental perspective on habitus informs the study of the mutual influence of organizations and individuals. The Bourdieuan concept of habitus has been described in a number of ways in the literature. It explains that an individual is shaped by structures and acts in ways that maintain the structures. Although the Bourdieuan habitus does not preclude change, much of habitus research has been focused on stability, not change. According to Wacquant (2011), "the notion of habitus proposes that human agents are historical animals who carry within their bodies acquired sensibilities and categories that are the sedimented products of their past social experiences" (p.82). This leads one to conclude

that as the stock of a person's social experiences grows, a person's habitus is subject to change. To quote Wacquant (2011), "People actively construct social reality through categories of perception, appreciation, and action that are neither universal nor unchanging. Rather, as the embodied sediments of individual and collective history, they are themselves socially constructed" (p. 85).

My study outlined the practice-induced changes in founders' dispositions, including habituated ways of thinking (e.g., maximizing advantage), feeling (e.g., feeling proud of the firm's products), relating (e.g., being attuned to other people's expertise), and acting (e.g., holding a demeanor). It showed that a growing firm changed the founder's placement relative to others in the firm and in the environment. For example, five consecutive years of rapid revenue growth in the firm placed the founder in Inc. 500, an elite club of entrepreneurs. With a changing position in the social order, field-specific acquired dispositions—such as propensity to launch new innovations, firm-centered self-interpretation, corporate lifestyle, confidence in decisions, inclination to gain publicity, and openness to outside investment—evolved, predisposing founders to some actions and not others. For example, one founder remained open to outside investment as the firm's growth placed him beyond the current investor's capacity to invest but within the reach of venture capital. My study also explored how evolving dispositions guided founder's actions and showed that new dispositions that were added to the founder's dispositional toolkit were activated by different situational cues. For example, a founder became active in market thought leadership when his president took over day-to-day business.

In this way, my study showed the recursive relationship in which firm growth was influenced by founders' improvisations that were guided by their habitus that in turn evolved with firm growth. This contribution is important to practice theorists in organization science because it shows how a developmental perspective on habitus informs the study of the mutual influence of organizations and individuals.

Polyvocality in Organizational Studies through Autoethnography

Scholars in organizational research have been calling for more autoethnographic work, because (1) knowledge-based organizations exert control on individuals more like cultures, which transforms individuals comprehensively, inviting researchers to use anthropological methods; and (2) one way for the researcher to understand the pre-discursive, context-specific, and embodied changes that individuals undergo in organizations is to experience those changes in that context (Michel, 2016). In questioning the taboo on organizational researchers telling their own stories, Anteby (2013) asserts, "involvement, far from lessening distance, creates opportunities for generating potentially strong theoretical insight" (p. 2). In my research, I have made extensive use of autoethnography, which allowed me to get closer to the phenomena being studied and produced insights that were based on deep immersion in the research setting in which I was first a participant and later a researcher. Direct experience of some of the ontological changes founders undergo in a growing firm made me more sensitive to the habituated ways of thinking, feeling, relating, and acting that other founders acquired through their businesses. The resulting work therefore contributes to organizational literature by illustrating how autoethnographic methods bring the voice of

a certain type of individual in an organization—in this case, a founder in a tech firm—into research.

Implications for Practice

Although the purpose of this exploratory grounded theory study was not to offer authoritative recommendations for practice, the findings are indicative of three areas of practical significance: (1) insights for entrepreneurs; (2) a new perspective for board members; and (3) ideas for entrepreneurship education. In each area, further adaptation and application of the model is necessary for practically useful results.

Insights for Entrepreneurs

The understanding of how entrepreneurs develop in growing firms offered in this study helps founders become aware of their own development. As a result, they are able to better influence the course of their own development and further create value for the economy and the society. Specifically, the insights emerging from this study inform entrepreneurs that (1) they learn and develop through business activity; (2) it is not just the plan but the work in the trenches that influences the firm's direction; and (3) their habituated ways of thinking, feeling, relating, and acting regulate the choices they perceive and the actions they take. Each of these points is elaborated with examples below.

This study shows founders that they can learn and develop through business activities, particularly by being open to new roles. For example, a founder who becomes aware of the benefit of taking new roles will become more open to role changes and will employ that as a learning strategy while contributing to business, just the way one

founder in this study did: he started as a programmer, managed engineering and support, learned strategic planning, and ultimately led a merger.

This study also shows founders that their performance in business practices can maintain or alter the direction with which they started. While a business plan—for example, distributing HR content over CD-ROM—informs practice, the practice can dialectically alter the plan, leading to a new one—for example, becoming a technology platform for delivering learning content. A founder who understands this phenomenon will remain more open to altering the firm's trajectory by becoming sensitive to cues that bubble up in daily practice.

Finally, this study makes founders aware of the influence their dispositions hold over their actions. A founder who understands that acquired dispositions regulate their actions will build better self-awareness, as was the case with two founder-partners in one firm who knew they valued control and autonomy so much that they were not open to outside capital.

A New Perspective for Board Members

The insights of this study may help board members gain a fresh perspective on their person-centric view of leadership. Awareness of the situated and social nature of leadership could counter their tendency to over-attribute leadership to the founder-CEO. Freed from the focus on one individual, board members can pay more attention to other elements of business practices that they may be able to contribute to leadership. For example, a board may observe what tools, temporal patterns, roles, and relationships

explain the effectiveness of the founder-CEO and intervene to recommend changes when necessary.

As illustrated by one of the firms studied, a founder-CEO became relevant to the engineering practice precisely because he so evidently lacked specialized knowledge in that area, causing the founder to make himself useful by becoming the voice of the customer that the specialists needed to hear. A board member who internalizes this insight of this study will refrain from assuming that the founder-CEO involved in a specialized practice must, over time, have internalized the expertise of those specialists.

Ideas for Entrepreneurship Education

From an entrepreneurship education perspective, this study brings a critical focus on the cognitive assumptions underpinning curricula and learning environment designs prevalent in business schools that teach entrepreneurship. A greater appreciation of the sociocultural perspective on technology entrepreneurship could result in new ways of designing learning experiences that emphasize learning as participation. In contrast with an exclusive focus on grasping abstract concepts, a new and improved program might immerse the learner in practices. This would provide concrete situations in which the learner could participate with increasing competence and become habituated to learning in the context of practices.

The various patterns of firm-influenced founder development that this study explored included *founder taking on a new role*, *founder re-learning in a familiar role*, *situated learning triggered by founder learning*, *founder's attunement to other people's expertise*, and *evolution in founder's habitus*. Educators could design learning

environments based on the participation metaphor to offer an experience of each of these patterns to a student of entrepreneurship. A particularly interesting educational innovation might entail creating a learning experience that places the student of entrepreneurship in changing relationships with others. Such placement would allow the student to experience how the resulting changes in dispositions guide action differently, much like the founder in this study who was inclined to compete globally with a greater confidence after his product was ranked a winner in a competition.

Limitations

Despite my best effort, this study has several limitations. This section points out how my background and positionality, data collection, analysis, and model-making may have been the sources of such limitations.

Researcher Limitations

In qualitative research, the researcher is an instrument of research (Patton, 2002). Therefore, researcher limitations are critical to examine. In my professional life spanning 25 years, I have been a founder-CEO of a tech firm. My entrepreneurial experience throughout these years was a rich source of data and insights, which I used as a researcher through autoethnography. In studying the entrepreneurship of others, my experience afforded additional benefits. It allowed me to establish rapport, use a common language, probe with precision, and have productive conversations with other founders and team members. However, in collecting and analyzing data, my entrepreneurial experience also put me at a dual risk. First, in studying my own case, my neutrality may have been questionable, I may have ‘stayed native,’ and I may not have distanced myself

as a researcher from the story. Second, in studying other cases, I may have applied cognitive and perceptual filters that arose from my own entrepreneurial experience.

To mitigate risks inherent in autoethnographic case study, I employed a variety of strategies. For generating autoethnography, I had a person with deep knowledge of the case interview me as a device to keep my articulation of the events neutral. To keep one foot in research at all times, I wrote memos that theorized the practice I was describing in each interview. To preserve distance, I had a knowledgeable peer reviewer independently review my observational notes, which were based on samples of written business communications and documents throughout the period of study. To mitigate bias toward other people's accounts, I maintained a journal and used it as a device for reflection about my biases. I remained in the moment as I asked questions. I had the interviews taped and transcribed verbatim from an agency. I shared an anonymized version of founder interviews with a peer reviewer.

Data Collection Limitations

For the research questions this study set out to answer, a longitudinal study would have been an ideal design. However, the time spans of a decade or longer that were under study made retrospective interviewing necessary, introducing a risk of distortion in data due to fallibility of human memory. Relying on interviews limited my ability to observe firsthand how practices changed over time. Not all interviews could occur face-to-face. Therefore, I missed the body language, which is not only an additional source of data but also a valuable aid to developing conversation.

To partially overcome these limitations, I employed several strategies. I constructed a detailed timeline of events for each case based on documented evidence and used it as a guide while interviewing. I also interviewed multiple participants about the same event for data triangulation. I reached back and conducted member checks for the founder interviews. For other participants, I could only do a few member checks.

Methodological Limitations

This study needed significant time commitment and effort on the part of the founders and their team members. Therefore, I needed to rely on my personal contacts for site selection so I could gain the access needed for the length of time I needed it. Not only did I need to rely on personal contacts, I was also limited by the number of individuals willing to sacrifice this much time. Some founders/CEOs just may not have this much time to give even if they would have wanted to participate. Because my professional network and relationships among entrepreneurs were primarily in the field of software, all three tech companies I sampled were software companies. Whether this is a limitation will need to be established empirically by studying technology companies of other types.

While my network dictated the selection of founders, I needed to rely on their introductions for access to other participants who were knowledgeable about the case. Although this approach turned out to be very effective in gaining access to knowledgeable people who were willing to participate, it may have excluded from the study those potentially valuable informants that the founders did not choose to select.

Model Limitations

This study was subject to constraints that are inherent in a small sample. Grounded theory generation through an exploratory study like this proceeds from a small number of purposefully selected cases that are studied in depth. It is important to bear in mind that the purpose of such a study is to build a nuanced understanding of processes and actors in a particular situation. Accordingly, the study does not claim generalizability. The boundaries of the model need to be established empirically through testing its elements in a variety of situations. Therefore, the theory and its implications must be understood as propositions for further research, which is discussed in the next section.

Directions for Future Research

The grounded theory model of founder-firm coevolution suggests several propositions about tech entrepreneurship, four of which are highlighted in this section: (1) founders learn and develop through practices that utilize them as resources; (2) performance of practices is guided by and maintains firm growth; (3) changes in founder habitus influence improvisation; and (4) practices change with the change in the constituent elements that the founder, the firm, and the environment contribute to them.

The focal role of business practices in the development of founders is a fruitful area of further investigation, especially for researchers interested in entrepreneurial learning and development. By building on my model, researchers could develop and test hypotheses about the development of founders from different starting points of proficiency in a variety of practice areas—such as R&D, marketing, and fund raising—as

a function of the maturity of these practices in their firms. For example, a technologist founder with a minimal understanding of marketing may develop differently by participating in marketing practices if they have an experienced marketing practitioner in the firm. Researchers could also develop and test hypotheses about practices that transform founders into different resources depending on context. For example, a founder may take on the role of a recruiter at a job fair, but that same founder would be a salesperson at a trade show. This would add to our understanding of the pathways of founder development as a function of firm growth, which is important because it explains transformations that are uniquely different at different points in firm growth.

Future research should further investigate the recursive relationship between organizational practices and firm growth. In technology entrepreneurship, specific research questions might investigate how product development practices enact a product roadmap that is not preordained. Such investigation is important to explain the commonly occurring phenomenon in which product development trajectories rarely match their initial plans. A comparative investigation can illuminate how different founders may attempt to influence a specific aspect of firm growth by focusing on: (1) the ostensive aspect of practices, i.e., by guiding and influencing practice through an abstract pattern of events; and (2) the performative aspect of practices, i.e., by participating in improvisation to enact an evolving pattern. This would advance the theory of entrepreneurial leadership by transcending its cognitive assumptions and adding a practice perspective to the study of how entrepreneurs lead.

Another research proposition may involve the study of tech founders that are relatively young and inexperienced, because in such cases the change of habitus may be more salient. Practice experience in a growing startup can significantly change the founder's existing dispositions—habituated ways of thinking, feeling, relating, and acting—that are based on the sediment of past experience. Research can investigate how an inexperienced founder's change of habitus in a growing firm unleashes changes in the way these founders improvise. Theory building and testing in this area will contribute to research in entrepreneurial learning and development.

How practices in growing tech firms change with a change in one or more of the constitutive elements can be a valuable line of inquiry for scholars in organizational science as well as science and technology studies (STS). Changing technology is a key environmental variable of concern to tech startups. The model presented here suggests that change of technology is interwoven with, and potentially transforms, other elements of a practice, leading to changes in the practice as well as changes in other practices, the founder, and the firm. In this way, by integrating the organization into a study of how practices evolve with changing elements, scholars in organizational science and STS can gain insights into organizational change phenomena triggered by changes in technology that are particularly pronounced in growing tech firms.

Conclusion

This study indicates that tech companies influence the development of their founders when they use founders as resources in different aspects of the company and place them in changing relationships with others. In turn, tech founders influence the

growth trajectory of their firms when they perform day-to-day practices of business. Founders and firms coevolve in a mutually constitutive relationship in which this reciprocal shaping occurs simultaneously as well as over time. These findings generate the following grounded theory. Firm growth changes the conditions under which business practices occur. The founder develops by becoming the resource the new context demands. A growing firm deposits new dispositions in the founder. In practice, a set of situational cues activates a specific disposition, regulating how the founder improvises. The founder's improvisation in turn influences firm growth. This reciprocal developmental relationship between the founder and the firm explains the tech industry's paradox of spectacular firm growth despite an inexperienced founder at the helm.

Appendix A: Site Consent

October 15, 2015

To Whom It May Concern:

My name is Vikas Joshi and I am a doctoral candidate at the University of Pennsylvania conducting research on the coevolution of technology firms and their founders. The goal of this study is to determine how founders of technology companies develop as business leaders while their firms grow. Participating firms will receive a complete report on the full study outlining the findings pertaining to professional growth and development of technology company founders.

I would like to ask for access to your site for this research. I would like to ask for access to archival documents and artifacts that represent salient points throughout the growth of the company from startup stage. I would also like access for interviewing the founder of the company, a key team member, and a coworker familiar with the activity of the business.

I assure you that I will not use the name of your firm nor the names of individuals involved in the business. Any information that I am exposed to will be kept confidential. Participation in the observations and interviews is voluntary. Refusal to participate will not result in any consequences or any loss of benefits that participants are otherwise entitled to receive. Participants have the right to confidentiality and the right to end the observation or interview at any time without any consequences. Every precaution will be taken to protect participant confidentiality. This includes removal of any identifying personal information. Only aggregated reports will be shared, and all recorded data will be stored in a cloud-based database that is password protected. It will not contain information that could identify any individual, startup or accelerator.

If you have any questions at any time, you can contact Vikas Joshi at (650) 814-0973 or vikasjoshi@usa.net or faculty advisor Sharon Ravitch at 215-898-5003 or ravitch@gse.upenn.edu

If you have questions about your rights as a research site, or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher(s), please contact:

University of Pennsylvania
Office of Regulatory Affairs
Institutional Review Board
3624 Market Street, Suite 301 South
Philadelphia, PA 19104-6006
Telephone: (215) 898-2614

IRB Approved: 23-Oct-2015 To: 22-Oct-2016

By signing this document, you are allowing the research to be conducted on your site. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what your site is being asked to do. You may contact the researcher if you think of a question later.

I authorize Vikas Joshi to conduct the research project described above.

Printed Name

Signature

Date

IRB Approved: 23-Oct-2015 To: 22-Oct-2016

Appendix B: Participant Consent

Consent to Participate in a Research Study **Professional Growth and Development of Technology Company Founders**

Principal Investigator: Vikas Joshi, EdD (ABD), University of Pennsylvania
Faculty Advisor: Sharon Ravitch, PhD, University of Pennsylvania

This research study seeks to determine how founders of technology companies develop as business leaders while their firms grow. The results of this study will be shared with the broader research community and aims to support startup. Participating firms will receive a complete report on the full study outlining the findings pertaining to professional growth and development of technology company founders. Interviews will take 30-90 minutes and will take time away from participants working on or with startups.

Participation in the interview is voluntary. Interviews may take place in person, over the phone or via skype, whichever is most preferred by the subject. Refusal to participate will not result in any consequences or any loss of benefits that participants are otherwise entitled to receive. Participants have the right to confidentiality and the right to end the observation at any time without any consequences. Participants may not feel comfortable speaking about their interactions with other network members. Please do not to reveal anything that could compromise your startup in any way. I do not have a legal right to withhold my interview recordings and notes in the event that they are subpoenaed in a court of law. Therefore, every precaution will be taken to protect their confidentiality. This includes removal of any identifying personal information. Only aggregated reports will be shared, and all recorded data will be stored in a database that is password protected.

Interviews may be transcribed from a professional service transcription. The service guarantees that all transcribers sign confidentiality agreements that forbid them from disclosing any information about clients or projects they work on and that transcribers destroy all documents and recordings from their computer and any other media within three days of completing the project. The data will not contain information that could identify you. Please note that although we take every precaution to protect your confidentiality, we cannot guarantee this.

If you have any questions at any time, you can contact Vikas Joshi at (650) 814-0973 or vikasjoshi@usa.net or faculty advisor Sharon Ravitch at 215-898-5003 or ravitch@gse.upenn.edu.

IRB Approved: 23-Oct-2015 To: 22-Oct-2016

If you have questions about your rights as a research participant or wish to obtain information, ask questions or discuss any concerns about this study with someone other than the researcher(s), please contact:

University of Pennsylvania
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3624 Market Street, Suite 301 South
Philadelphia, PA 19104-6006
Telephone: (215) 898-2614

By signing this document, you are agreeing to be in the study. You will be given a copy of this document for your records and one copy will be kept with the study records. Be sure that questions you have about the study have been answered and that you understand what you are being asked to do. You may contact the researcher if you think of a question later.

I agree to participate in the study.

Printed Name

Signature

Date

IRB Approved: 23-Oct-2015 To: 22-Oct-2016

Appendix C: Linking Methods and Questions

The matrix in Table C1 shows how my data collection and data analysis methods relate to my research questions.

Table C1: *A Matrix Mapping Research Questions and Methods*

Research Question	Goal	Data Collection Method	Data Analysis Method
How do growing tech companies influence the development of their founders?	To understand the influence of contextual factors on founder development	Observational notes from autoethnography Founder interviews Focal person interviews Archival documents Jottings	Audio recording Transcription Coding Memos Thematic analysis
How do tech founders influence the growth trajectory of their firms over time?	To understand how entrepreneurial leaders influence firm growth	Autoethnography Focal person interviews Archival documents Jottings	Audio recording Transcription Coding Memos Thematic analysis
How do tech founders and firms coevolve?	To understand the entwined nature of development of founders and the growth of their technology firms	Analytical memos List of assertions and propositions Case writing	Cross-case analysis Matrix display Within-case analysis Listing assertions and propositions Model building

Appendix D: Founder Interview Protocol

Thank you for taking the time for the founder interview. This interview will help me collect data for a case study that will be part of a broader investigation into the way tech founders and their firms evolve over time. This interview will be in three parts, and each part will likely be a separate meeting.

- In part 1, I will invite you to describe your background at your startup, construct a broad timeline of major events with your help, and understand how you identify key periods in your firm's life span.
- In part 2, we will do a deep dive into some of the major decisions that were critical to the firm throughout its history. We might discuss up to a dozen such decisions.
- In part 3, I will invite you to reflect on how you have changed professionally throughout your tenure as a founder.

I have a total of six broad questions to ask you over these three sittings. Where I see the opportunity to go deeper, I will probe with additional questions. Do I have permission to record? I will be recording this interview and also writing notes as we talk to each other. Parts 1 and 3 will take less than an hour. Part 2, depending on the number of decisions we decide to discuss, might take a bit longer. We can take a break in between anytime you wish to. Feel free to ask any questions you may have. Every precaution will be taken to protect your confidentiality. This includes removing any identifying personal information, sharing only aggregated reports, and storing all recorded data in a database that is password protected. Are we ready to start?

Part 1

1. Please describe your professional background just prior to your startup.
2. What major events jump out at you throughout the life span of the company?
3. If you were to demarcate the life of this company into major periods, what might they be?
 - a. Why these?
 - b. What work contributions did each period demand?
 - c. Describe how the physical work environment evolved over time.
 - d. Give me a sense of what was going on in your life during each period
 - e. How would you describe yourself at the end of that period?
 - f. What changed in the firm from one period to the next?

If there is anything else on these questions that you would like to share, now may be a good time.

Part 2

Last time, you described your background prior to your startup, we constructed a broad timeline of major events, and you identified key periods in your firm's life span. Today, we will do a deep dive into some of the major decisions that were critical to the firm throughout its history. We might discuss up to a dozen such decisions. This will be a more detailed conversation, and perhaps a bit longer one. I will be looking for some specifics, which I will ask from time to time.

4. What were some critical business decisions that you faced from time to time?
 - a. What was at stake?
 - b. What resources mattered the most in that decision?
 - c. How did the decision take place?
 - d. How did it pan out?
 - e. What did you learn from this decision?
 - f. What did others learn about you from this decision?

If there is anything else on these questions that you would like to share, now may be a good time.

Part 3

Today we conclude the three-part interview. Last time we zoomed in on the decisions in the firm. Today we zoom out and reflect on how you have changed professionally throughout your tenure as a founder and how the business progressed with you at the helm.

5. As you look back, do you observe that as you were taking the business to the next level, the business was also taking you to the next level?
6. Can you reflect on the history of the firm and say something about how your firm found the way forward throughout these years?

If there is anything else on these questions that you would like to share, now may be a good time.

Appendix E: Interview Questions Mapped to Theory

Table E1: *Mapping of Interview Questions with Theoretical Concepts in the Literature*

#	Interview Question	Concepts	Literature
1	Please describe your professional background just prior to your startup.	Entrepreneurial leader's competencies	(Gupta et al., 2004)
2	What major events jump out at you throughout the life span of the company?	Event-based time parsing	(Gersick, 1994)
3	If you were to demarcate the life of this company into major periods, what might they be? Why these?	Stage models	(Kazanjian, 1988; Quinn & Cameron, 1983)
	What work contributions did each period demand?	Practices, Resourcing	(Nicolini, 2012) (Feldman & Orlikowski, 2011)
	Describe how the physical work environment evolved over time.	Space and practice, Bodily activity, Sociomateriality	(Shove, Pantzar, & Watson, 2012) (Reckwitz, 2002) (Orlikowski, 2007)
	Give me a sense of what was going on in your life during each period.	Emotion (cognitive dispositions)	(Reckwitz, 2002)
	How would you describe yourself at the end of that period?	Identity Learning	(Packer & Goicoechea, 2000) (Lave & Wenger, 1991)
	What changed in the firm from one period to the next?	Firm growth as change, Punctuated equilibria	(Feldman & Pentland, 2003) (cite Tushman & Romanelli, 1994)
4	What were some critical business decisions that you faced from time to time?	Practices Change	(Reckwitz, 2002) (Shove et al., 2012)
	What was at stake?	Perceptual filter, Ostensive aspect of a practice guides the	(Bourdieu, 1990) (Feldman & Pentland, 2003)

		performative aspect	
	What resources mattered the most in that decision?	Resourcing	(Feldman & Orlikowski, 2011) (Feldman, 2004)
	How did the decision take place?	Habitus, Regulated improvisation, Deviation	(Bourdieu, 1990) (Garud & Karnøe, 2003)
	How did it pan out?	Endogenous change, Performative and ostensive aspects of routines	(Tsoukas & Chia, 2002) (Feldman & Pentland, 2003)
	What did you learn from this decision?	Shaping of dispositions, habitus change	(Bourdieu & Wacquant, 1992) (Wacquant, 2011)
	What did others learn about you from this decision?	Social identity in relationships	(Packer & Goicoechea, 2000)
5	As you look back, do you observe that as you were taking the business to the next level, the business was also taking you to the next level?	Mutual constitution	(Michel, 2014) (Nicolini, 2012)
6	Can you reflect on the history of the firm and say something about how your firm found the way forward throughout these years?	Substitutes for / Romance of / Constraints on leadership, Constituent elements of practice	(Kerr & Jermier, 1978) (Meindl et al., 1985) (Wasserman et al., 2001) (Reckwitz, 2002)

Appendix F: Interview Mapped to Research Questions

Table F1: A Grouping of Interview Questions under Each Research Question

Focal Concern	RQ #1: How do growing tech companies influence the development of their founders?	RQ #2: How do tech founders influence the growth trajectory of their firms over time?	RQ# 3: How do tech founders and firms coevolve?
Back-ground data	Please describe your professional background just prior to your startup.		What major events jump out at you throughout the life span of the company?
Event Periods	How would you describe yourself at the end of that period?	What work contributions did the period demand?	If you were to demarcate the life of this company into major periods, what might they be? Why?
	Give me a sense of what was going on in your life during that period.	What changed in the firm from one period to the next?	Describe how the physical work environment evolved over time.
Decision Practices	What did you learn from this decision?	What were some critical business decisions that you faced from time to time?	How did the decision take place?
		What was at stake?	How did the decision pan out?
		What resources mattered most in that decision?	What did others learn about you in this decision?
Reci-procal Developmental Relationship		Can you reflect on the history of the firm and say something about how your firm found the way forward throughout these years?	As you look back, do you observe that as you were taking the business to the next level, the business was also taking you to the next level?

Appendix G: Timeline of Procedures

Table G1: *A Timeline of Procedures*

Activity	Tasks	Timeline
Defend dissertation proposal	Set up oral proposal hearing Complete IRB CITI training Present proposal and receive ballot	October 9, 2015
Get IRB approval	Submit IRB application Receive approval	October 26, 2015
Recruit research participants	Reach out and request participation Get acceptance and thank them Request archival documents Schedule dates for interviews	October 2015
Data collection for Case 1	Collect archival documents Study archival documents Prepare notes from self-ethnography Interview co-founders Transcribe interviews Prepare memos	October 2015 – November 2015
Data analysis	Review and analyze memos, notes, and interview transcripts Write case 1 Build a tentative theory	October 2015 – December 2015
Data collection for Cases 2 and 3	Design interview instruments Request archival documents Study archival documents Interview founders Interview team members Transcribe interviews Prepare memos	December 2015 – February 2016
Data analysis	Review and analyze memos and interview transcripts Write cases 2 and 3 Revise theory Conduct cross-case analysis Revise theory	December 2015 – February 2016
Write chapters 4 and 5		February 2016
Send dissertation Draft 1		February 29, 2016
Send dissertation Draft 2		March 21, 2016
Submit final dissertation		April 11, 2016
Defend dissertation		May 2, 2016
Graduate		May 14, 2016

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