

Aspects of Top Management Team and Firm Growth

Jari Handelberg

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Abstract

This study concerns the growth of young technology-based firms in particular and the growth of firms more generally. It has been widely established that firm growth is important to a region, both economically and socially, most notably through the generation of employment. However, a number of studies have revealed that only a small proportion of firms generate such growth.

Recent literature on growth has emphasized the role of top management in providing the limits for firm growth. A number of studies have confirmed that successful ventures are often established by groups rather than by individuals. Further studies on top management teams have confirmed the link between management teams and organizational performance, especially in high-velocity conditions. An increasing body of knowledge on the importance of teams has led venture capitalists and government agencies to rely heavily on teams and team building as guarantees for the success of new firms. However, despite accumulating evidence about the link between founding/management teams and performance, relatively few efforts have been made to investigate the constructs underlying the linkage.

The primary purpose of this study is to explore the link between aspects of top management and firm growth in young technology-based companies. The research task is to conceptualize and explore the relationships between aspects of team and firm performance and growth, and also the conditions for the emergence and continued existence of these relationships. The theoretical rationale underlying this research setting is that managers at the top of the organization have the most influence on the choices and organizations of firms. Furthermore, their backgrounds, experiences, and cognitive frames of reference are reflected in their behavior and decisions. Since the legitimacy of firms may be evaluated via their managers and their backgrounds, top managers (and their backgrounds) can also have another direct influence on performance. Thus, it can be concluded that if top managers have the appropriate backgrounds, experiences, knowledge, skills, and cognitive frames of reference for growth, their firms will grow (based on both the efficiency and legitimacy of the firm).

This study draws on a number of areas within the field of entrepreneurship, management, and organizations research. The areas of new venture creation, small business growth, top management teams, small group research, and institutional theory provide the underpinning for this study, and the basis for the contributions made to the field of entrepreneurship and small business growth research. Several constructs, taking into account the multiple levels of analysis, are developed to increase our understanding on the relationship between aspects of top team and firm performance and growth.

Keywords firm growth, top management team, team demography, team process, young technology based company, entrepreneurship, institutional theory

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Johtoryhmän ominaisuudet ja yrityksen kasvu

Julkaisija Kauppakorkeakoulu**Yksikkö** Johtamisen ja kansainvälisen liiketoiminnan laitos**Sarja** Aalto University publication series DOCTORAL DISSERTATIONS 76/2012**Tutkimusala** Yrittäjyys**Tiivistelmä**

Tämä tutkimus selvittää yrityksen johtoryhmän ominaisuuksien ja prosessien vaikutusta yrityksen kasvuun ja menestykseen. Tutkimuksen kohteena ovat nuoret teknologiayritykset. Lisäksi yrityksen kasvua koskevia yleistyksiä pohditaan laajemminkin.

Aikaisemmat tutkimukset ovat osoittaneet, että kasvuyritykset ja yritysten kasvu ovat tärkeitä kansantaloudelle, sillä kasvuyritykset tuottavat suuren osan uusista työpaikoista. Kasvuyrityksiä on kuitenkin varsin harvassa. Nämä seikat, kasvuyritysten tärkeys ja toisaalta niiden harvinaisuus, ovat saaneet aikaan lisääntyneen kiinnostuksen kasvuyrityksiä ja kasvuyritystutkimusta kohtaan.

Yrityksen johtoryhmällä on asemansa ja tekemiensä päätösten kautta suuri vaikutus yrityksen kehitykseen ja kasvuun. Vastaavasti johtoryhmän ominaisuudet ja prosessit heijastuvat yrityksen tekemissä päätöksissä ja valinnoissa. Näin johtoryhmän ominaisuuksilla ja prosesseilla on suora yhteys yrityksen kasvuun ja kehitykseen. Johtoryhmän ominaisuuksilla on myös välillinen yhteys yrityksen menestykseen. Yrityksen kehityspotentiaalia ja varteenotettavuutta arvioidaan yrityksen johtoryhmän ominaisuuksien perusteella, ilman, että siinä arvioidaan suoraan varsinaisesti johdon toimintaa työssään. Näin johtoryhmän ominaisuuksilla on myös välillinen vaikutus yrityksen kehitykseen ja menestykseen toimintaympäristön toimijoiden toimiessa myönteisesti tai kielteisesti yrityksen kasvua ja kehitystä kohtaan. Kiinnostus johtoryhmiä, johtoryhmän ominaisuuksia ja prosesseja kohtaan onkin lisääntynyt merkittävästi. Kasvuyrittäjyyden tärkeys ja toisaalta johtoryhmien osoitettu vaikutus kasvuun on saanut myös yrittäjät, liikkeenjohdon konsultit ja yrittäjyyttä edistävät virkamiehet kiinnostumaan johtoryhmistä pyrkimyksenään edistää yritysten kasvua johtoryhmien ja johtoryhmäosaamisen avulla.

Vaikka tiettyjen johtoryhmän ominaisuuksien on osoitettu liittyvän yrityksen kasvuun, esiintyy vielä paljon epäselvyyttä siitä, milloin mikäkin ominaisuus vaikuttaa tai liittyy yrityksen kasvuun ja menestykseen myönteisesti ja milloin kielteisesti.

Tämä tutkimus tuottaa lisätietoa johtoryhmän ominaisuuksien ja yrityksen kasvun ja menestyksen välisestä suhteesta sekä olosuhteita, joissa suhde ilmenee. Tutkimus täydentää aikaisempaa johtoryhmätutkimusta ja laajemmin yrittäjyyden, yritysten kasvun ja organisaatioiden tutkimusta. Lisäksi tutkimus tuottaa käytännön tietoa johtoryhmien hyödyntämisestä yrityksen kasvun edistämiseksi.

Avainsanat yrityksen kasvu, johtoryhmä, johtoryhmän ominaisuudet, johtoryhmän prosessit, nuoret teknologiayritykset, yrittäjyys, institutionaalinen teoria

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Espoo, May 2012

Jari Handelberg

Preface

Since the completion of this dissertation has taken a while, it is enlightening to provide some insights into the process and the progress of the study. This also sheds light on the decisions made and directions taken during the process and the development of my thought during the process while at the same time working as a trainer and consultant for growth companies.

The topic of the study was developed and framed during my visiting scholarship at the Cranfield School of Management, UK, from 1995 to 1996. Before that I had just completed my licentiate thesis on the topic “Strategic Groups in the Industry Manufacturing Material Handling Equipment and Systems” at the Helsinki School of Economics. In that study I found that the strategic decisions of companies are very much dependent on the experiences, networks, and knowledge of their top managers. Finnish companies, which had been working and competing closely together in the home markets seemed to very similar in their strategies and operations. On the other hand, as a group, they differed from their German competitors/counterparts, who were much more differentiated in their strategies and operations. The backgrounds and environments of the entrepreneurs and managers who influence the outcomes and performance of firm seemed to provide a relevant area of practical interest in the field of entrepreneurship research.

The first theme of my dissertation was to study the external relationships of top managers to see whether they explain the differences and similarities in their knowledge structures and whether the differences in these relationships would also explain the differences in strategies and outcomes of their firms. Concerning that topic, I had already prepared a preliminary research plan at the research seminar held by Professor Bengt Johannisson during my stay at the Vienna School of Economics in 1993-1994. During that stay I also had an opportunity to enhance my knowledge on the network view on a course taught by Professor Howard Aldrich. The network view was the starting point of this study.

The idea of a broader view of networks and opportunities they provide for experienced top management teams emerged from articles on international new ventures (INV) (e.g. Oviatt and McDougall 1994), the new modes (of organization) of operation in the international/global markets based on the experiences of managers with accumulated knowledge and relationships in international/global business. My focus turned to this new issue. My dissertation could concern top management

teams, strategies, operations, and relationships of international new ventures. During my stay at Cranfield from 1995 to 1996, it proved difficult to find an example of such a venture, even in the UK. With the help of Professor Shailendra Vyakarnam (later the Director of Centre of Entrepreneurial Learning at Cambridge), the second supervisor of my thesis, I contacted and interviewed the top managers of several young ventures, one of which had made a successful IPO at Nasdaq only a short time before. Those companies did not, however, entirely fulfill the criteria for INVs in the seminal articles. Due to the limited number of INVs, the research topic expanded to concern more generally top teams, strategies, and the operations of rapid growth companies.

My research period at Cranfield was two-fold. I participated in the Cranfield doctoral program and deepened my methodological understanding concerning the social sciences. At the same time I did research on teams and growth together with Shailendra ("Shai"). My research on the topic of top teams and firm growth led to several research papers. On the other hand, as the result of methodology studies, an ongoing process of interest in the methodologies of management studies and social science emerged. Indeed, this was a very fruitful stage in which I deepened my knowledge of methodology issues.

The first studies of top team and firm growth concerned the formation and development of top teams as part of the formation and development of a business. The multiple case study method was used to explore the issue in rapid growth companies in the UK and Finland. The results of the studies raised interesting issues concerning the stages or phases of team formation as part of business formation. On the other hand, the studies raised the motivation of members of the team and various issues that affect it. The following papers were written:

Handelberg, J. (1996), Toward the Framework to Study Entrepreneurial Teams: literature review, Working paper, February 1996, Cranfield School of Management, UK.

Ramachandran, K., Vyakarnam, S. & Handelberg, J. (1996) Entrepreneurial Types at the Start-up Stage, presented at the 26th European Small Business Seminar, Vaasa, 11-13 September 1996.

Vyakarnam, S., Jacobs, R.C. & Handelberg, J. (1996) Building and Managing Relationships: The Core Competence of Rapid Growth Business, presented at the

19th ISBA Conference, University of Central England Business School, Birmingham, UK, 20-22 November 1996.

Vyakarnam, S., Jacobs, R.C. & Handelberg, J. (1997) Formation and Development of Entrepreneurial Teams in Rapid Growth Businesses, presented at the 17th Babson College-Kauffman Foundation Entrepreneurship Research Conference, Babson College, Babson Park, MA, USA, 16-20 April 1997.

Handelberg, J., Vyakarnam, S. & Jacobs, R.C. (1998) Motivational Mechanisms Guiding Interpretations and Actions in an Entrepreneurial Team, presented at the 18th Babson College-Kauffman Foundation Entrepreneurship Research Conference, University of Gent, Gent, Belgium, 19-24 May 1998.

Following the experiences and feedback from the visits at the Babson Entrepreneurship Research Conferences in 1997 and 1998, a more structural and quantitative survey study approach was chosen for more in-depth study of major issues that emerged in the case studies. A survey of young technology-based companies and their top management teams was carried out in Finland in 1999. The target population for the study was top management teams from a set of technology-based companies founded in Finland between 1983 and 1995. Two industries were included in the study: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). The first three essays of this dissertation are based on the results of this survey study.

My methodological studies progressed along with preparation of the survey study. A number of questions arose concerning the research results and their significance for practical managers. One reason for the extensive discussion of the proper methodology for management studies was a course on the Methodology of Management Research conducted by Professor Richard Whitley at the Helsinki School of Economics in summer 1998. Whitley's message was clear: what you can suggest to practitioners based on a narrow perspective on teams, success and growth. You need a broader framework to interpret the practical relevance of the results. This was also one reason why, in addition to the survey, I decided to make an additional interview round in the companies studied to gain a broader framework for interpreting the results of the survey. The interview round was also extended to the companies which had not been in the sample of survey study, for example to subsidiaries of foreign companies that had previously been independent companies.

The results of this interview led to an entirely different approach to the issue of teams and firm growth. A more international view was needed in order to understand the emergence and existence of the relationship between aspects of team and firm performance and growth. There were cases, for example, in which an international company that had acquired a small or medium-sized Finnish company was actually younger than the acquired company. When I took a closer look at these international companies I found out that they had formed their teams and businesses on the basis of an altogether different logic than that of their Finnish counterparts. Those companies were either newly born parts of large corporations or they were wholly new ventures with a very experienced founding/management team from the very beginning. Common to all of them was also that they had an experienced management team and reputed venture capitalists and/or investors behind them. Indeed, those companies were the international new ventures (INV) or born globals that I had sought to study a couple years earlier in the UK.

Based on the findings of the interview study together with publicly available data on companies, industry and wider economy, a hypothetical construction of the formation and development of firms (traditional Finnish companies versus INVs) and how they meet in the markets was created. The construction was presented in a research seminar at the Centre for Doctoral Studies at the Helsinki School of Economics in December 1999. After this the construction was tested in a number of companies, also including global companies in Finland. The feedback gained supported the relevance of the construct and clearly illustrated the differences between companies and their developmental paths.

I was in trouble, however. As an additional issue of my dissertation, an interesting construct was emerged from the data. The construct seemed to change the prior interpretations of the survey. On the other hand, further study of the underlying issues of this construct would apparently take too much time. I had spent five years already on my PhD and the survey was intended as the basis for my dissertation. I decided to complete essays 1, 2 and 3 for my thesis as planned. The construct could form a base for the fourth essay of the dissertation.

In spring 2000 along with my research and partially based on the research findings, I prepared a proposal for a research project related to the globalizing competitive environment for the Finnish Innovation Fund SITRA. The proposal was made together with the Helsinki School of Economics, the Hanken School of Economics, and the Helsinki University of Technology. Parts of the proposal were later used in

the research program “Finnish Companies and the Challenges of Globalization, LIIKE,” lounged by the Academy of Finland in 2001. At that same time I also prepared a paper related to the construct together with Professor Risto Tainio and Professor Janne Tienari titled “The capital market driven shift toward the new economy: Who survives in the new game?” A further version of that paper titled the “New Game” was presented at the Stanford University Scancor seminar by Risto Tainio in spring 2001.

My PhD dissertation was almost completed in summer 2001. I was however, plagued by enormous dissonance and struggle. The construct seemed to change the interpretations of my survey results, but because the construct not been explained in depth theoretically and I had not understood it myself, I could not make full use of it.

In fall 2001 I started my job as research director at the Kymenlaakso University of Applied Sciences. My task was to develop entrepreneurial education and initiate research and development projects related to entrepreneurship and small businesses in the surrounding regions. Due to this challenging task, my dissertation had to wait. However, that time was essential for the further development of the construct. While working on entrepreneurship development in the regional level, the institutional issues and theorization underlying the construct of team and business formation and development became evident. These issues and theorization were further developed, sharpened, and applied utilized in my current job as the director responsible of R & D projects with the companies and regions at the Aalto University Small Business Center.

Essay four now completes a broader institutional framework for interpretation of the survey results and for understanding the formation and development of teams and businesses as well as the emergence and existence of the relationships between aspects of team and firm performance and growth. Several implications for research and practice were made. The long trip to completion of my PhD was nearing an end. However, the number of new issues raised by the dissertation meant that this was only the start of my journey into close-to-practice research.

Espoo, May 2012

Jari Handelberg

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Table 1: Team Sizes and Responses

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Table 3: Regression Analyses & Hypotheses Tests (ROA)

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Table A2. A Principal Component Matrix of Direct Resource Effect Variables

Table A3. Principal Component Matrix of Structure Effect Variables

Table A4. A Principal Component Matrix of Process Effect Variables

Table A5: Means, Standard Deviations and Inter-correlations

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Essay 4

APPENDIX

Table A1: Summary of differences of companies and their initiation conditions

Title Aspects of Top Management Team and Firm Growth

The dissertation consists of the following essays:

ESSAY 0: Overview of Dissertation (Introductory Essay)

ESSAY 1: Handelberg, J. & Vyakarnam, S. (1999), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Five Models on the Impacts of Management Team on Performance, presented at the 19th Babson College-Kauffman Foundation Entrepreneurship Research Conference, University of South Carolina, Columbia, SC, USA, 13-15 May 1999.

ESSAY 2: Handelberg, J. & Vyakarnam, S. (2000), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Differential Effects by Industry, Firm Size and Perceived Product Innovativeness, presented at the 20th Babson College-Kauffman Foundation Entrepreneurship Research Conference, Babson College, Babson Park, Wellesley, MA, USA, 8-10 June 2000.

ESSAY 3: Handelberg, J. & Vyakarnam, S. (2001), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: The Interaction Effects of Strategic Orientation, presented at the 21th Babson College-Kauffman Foundation Entrepreneurship Research Conference, Jönköping International School of Business, Jönköping, Sweden, 13-16 June 2001.

ESSAY 4: Handelberg J. (2011) Entrepreneurial Top Management Team Demography, Process and Organizational Performance: An Institutional Explanation (unpublished)

PART 1: Overview of the dissertation (Introductory Essay)

1 Introduction

The purpose of this essay is to introduce the research and present its overall aim. Since the study combines a number of perspectives within the broad category of entrepreneurship, management, and organization research, this introduction is intended to inform the reader of the relevant domains of the research and the reasons of their inclusion.

This study contributes to the understanding of the initiation, development and growth of firm and the link between aspects of top management team and firm performance and growth. It has been widely established that firm growth is important to a region, both economically and socially, most notably through the generation of employment and the pursuit of a product-market in the future (Birch, 1979; Doyle and Gallagher, 1986; Storey and Johnson, 1987; Westhead and Cowling, 1995; Kirchoff, 1994; Storey, 1994; Bowen and De Clercq, 2008; Autio, 2009). However, a number of studies have revealed that only a small proportion of firms achieve this growth (Doyle and Gallagher 1986; Storey and Johnson 1987; Autio et al., 1989; Autio, 2009; Finnish Growth Enterprise Review 2011).

Meanwhile, a number of studies have confirmed that successful ventures are often established by groups of individuals rather than by a single person (Roberts and Reitberger, 1988; Doutriaux, 1992). Further studies on top management teams have also confirmed the link between management team and organizational performance, especially in high-velocity conditions. Management teams have also been linked to organizational innovation, strategy, and strategic change (Bantel and Jackson, 1989; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992; Wiersema and Bantel, 1992). Although there is mounting evidence of the importance of top team for firm emergence and growth, very little is known about the mechanisms and constructs underlying the link between aspects of top team and firm performance. This study seeks to enhance our understanding of the link and to provide practical implications for entrepreneurs, managers, business consultants, and policy-makers about the key issues related to the use and development of teams to support firm growth.

1.1 Backgrounds

The literature on top management teams has grown steadily over the past decade. The recent literature on firm growth has emphasized the role of top management in providing limits for firm growth. It has been argued that the impact of the top management team on firm survival and growth is even greater in new companies than in old established firms.

According to conventional wisdom, in order to be successful, entrepreneurs starting new ventures must build a top management team (TMT) that is knowledgeable in all of the key strategic, technical, and functional areas of their business (Carton and Amason, 1999). The top management team is important as it is this group of individuals that must guide the venture through the difficult period of the liability of newness (Hay, Verdin and Williamson, 1993; Singh, Tucker and House, 1986; Stinchcombe, 1965). Teams that have been successful in managing new ventures in the past are often considered likely to do so again in the future (Carton and Amason, 1999). The importance of venture/management teams as facilitators of firm survival and growth and as guarantors of investment has also been emphasized over the past decade. Perhaps the main reason for the increase in top management team research is that a team-level view of top management allows for a more accurate depiction of reality, and thus more effectively captures the portion of performance that is attributable to managerial action.

Interest in the backgrounds, characteristics, processes and choices of individual managers or groups of individuals of management team has burgeoned in the past decade. In part this interest reflects a classic disagreement regarding the primary of situational or dispositional antecedents of firm behavior (Astley and Van de Ven, 1983). It was originally argued by Cyert and March (1963) and March and Simon (1958) that complex decisions are largely the outcome of behavioral factors rather than a mechanical quest for economic optimization. In their view, bounded rationality, multiple and conflicting goals, myriad options, and varying aspiration levels all serve to limit the extent to which complex decisions can be made on a techno-economic basis. Generally, the more complex the decision, the more applicable the behavioral theory is thought to be. So, for the class of choices called “strategic” – those that are considered complex and of major significance to the organization – the behavioral theory is especially apt.

The dominant coalition (March, 1963) and upper echelons (Hambrick and Mason, 1984) theories suggest that the managers at the top, and their knowledge related to their backgrounds, demography and structures, have a great influence on the outcomes of their firm. The theoretical rationale underlying this is that managers at the top of the organization have the biggest influence on the choices and organization of the firm. Furthermore, their backgrounds, experiences, and cognitive frames of reference are reflected in their behavior and decisions. Top managers (and their backgrounds) can also have another direct influence on the firm performance since the legitimacy of the firm may be evaluated via their managers and their backgrounds. Thus, it can be said that if the top managers have the appropriate backgrounds, experiences, knowledge, skills and cognitive frames of reference for the growth of the firm, the firm will grow (based on both efficiency and legitimacy of the firm). This begs the question of what are the appropriate backgrounds, experiences, knowledge, skills and cognitive frames of reference required by the top management to ensure growth of their firms. This line of questioning may also be contextualized as to “the particular accumulated circumstances of growth.”

The following chapters first review the small business research and the research of teams and small groups; second, establish the aims of the study; and third, build the theory further in order to understand the relationship between aspects of the top management team and firm performance and growth. A number of perspectives within the broad category of entrepreneurship, management, and organization research are combined.

1.2 Small business research

The potential dominance of the individual entrepreneur or owner-manager in shaping the behavior of small businesses has led to a number of frameworks for understanding the small business in terms of the behavior and qualities of the owner-manager or entrepreneur. Stevenson and Jarillo (1990) delineate between research concerned with what happens when entrepreneurs act, which is largely approached from an economic perspective; why they act, which draws on the core disciplines of psychology and sociology; and how they act, which is the domain of management research. Chell and Adam (1994) consider research to be grouped on the basis of providing psychological, sociological, or economic perspectives on entrepreneurship. All of these frameworks reflect an emphasis on the owner-manager and the potential complexity of undertaking entrepreneurship and small business management research.

In the field of entrepreneurship and small business research, there is an underlying assumption that it is desirable for such businesses to grow. This is largely based on evidence from the USA and Europe, which indicates that the growth of small firms contributes significantly more to overall employment growth than the growth of larger firms (Birch 1979; Doyle and Gallagher, 1986; Storey and Johnson 1987).

In order to stimulate employment levels, this perspective has led many governments and agencies to focus on programs that encourage the start-up of new firms. However, a number of researchers have expressed concern at such a simplistic approach to small business policy. Storey and others (Storey et al., 1989; Storey and Johnson, 1987; Westhead, 1988) advocate a shift in policy, away from a focus on the small business per se, to concentrate on fast growth-small businesses. The reason is that a number of studies conclude that very few small businesses contribute to this growth phenomenon. Doyle and Gallagher's two year study (Doyle and Gallagher, 1986) found that only 0.02% of firms created 45% of new jobs. Storey and Johnson (1987) attributed a 47% increase in new jobs to 6% of the businesses surveyed in their regional study. The conclusion reached in these studies is that it is these fast-growth businesses that should receive assistance as opposed to all small businesses.

As it is accepted that the growth of small business is important and it has been established that only a small proportion of such businesses grow significantly, the problem of explaining such variation in performance remains. The literature offers a number of perspectives for understanding small business behavior and therefore how and why such businesses may grow. Growth is a pervasive term which is applied across the breadth of entrepreneurial, managerial and organizational literature. In the case of small businesses, the issue of "picking winners" has generated considerable interest in establishing the growth antecedents of small businesses (Gibb and Davies, 1990).

In considering different school of thought in the organizational literature Van de Ven and Astley (1982) develop two alternative poles for classifying schools of organizational thought: deterministic versus voluntaristic orientations. These are based on the earlier work of Weeks (1973) and Burrell and Morgan (1979). These two orientations are combined with a further dimension concerning the level of analysis which is being considered: macro level (populations, industries, and communities) or micro level (individual organizations, groups and persons). These dimensions can be combined to form a matrix for considering organizations and their behavior (Van de Ven and Astley, 1982; Astley and Van de Ven, 1983). This framework is outlined in figure 1. Figure 1

shows that these dimensions can be combined to define four views of organizations: natural selection - the external environment determines firm population in a particular sector; collective action - collective influence can determine the performance of particular sectors; system-structure - the ability to respond to the environment is reflected by internal structures and systems; strategic choice - managers can determine their own future through decisions and actions.

In terms of new venture or small business growth, the deterministic-voluntaristic construct offers an appropriate basis for considering some of differing research approaches. There are also macro/micro level distinctions in the study of small businesses: for example, Curran and Stanworth's (1984) reference to small businesses as a collective body (collective action) or individual entrepreneurs (strategic choice). The deterministic/voluntaristic dimension is applied here, as it contrasts in growth behavior at the micro level - the contrast between equivalent firms - which is the area requiring further exploration (Davidsson 1991).

Macro level	Natural Selection	Collective Action
	System- Structure	Strategic Choice
Micro level		
	Deterministic orientation	Voluntaristic orientation

Figure 1: Four views of organization and behavior (Van de Ven and Astley 1982, 431)

1.2.1 The deterministic perspective

From a deterministic perspective, the growth of an organization is determined and constrained by the external business environment. Deterministic approaches consider growth to be a function of the relationship between the organization and the external business environment. The unit of analysis is therefore at the organizational level. It is assumed that managerial competence and information are equally distributed across all firms. Classical economics presents a deterministic view of organizational growth. Growth is deemed to be a consequence of a firm moving to reach the optimal size for a particular market structure. In this context, growth is described as a loosely defined adjustment mechanism with organizations reaching differing sizes for particular markets (Eatwell, 1971).

Similarly, the organizational ecology approach (Katz and Kahn, 1978; Hannan and Freeman, 1989) views growth as a function of environmental pressures being matched to the needs and abilities of the organization. This is analogous to a biological system adapting to its environment; the managers within the organization have little control over the direction and ultimate performance of the business (Aldrich and Mueller, 1982). This analogy has been specifically applied to a number of small business studies (McGuire, 1976; Hosner et al., 1977).

Kumar (1984) identifies the stochastic view as a further perspective. This approach was developed by Kalecki (1945) and has been supported more recently by Curry and George (1983). The position of the stochastic perspective is that the growth of firms in a particular industry can be predicted by a probability distribution. Growth is seen as a random process distributed amongst firms by chance or luck rather than being driven by a particular explanatory variable.

When specifically considering small business research, a number of studies have taken a more deterministic perspective. Many of these have considered the problems of the regional environment and the implications for policy and small business development (Cooper, 1982; Stuart and Abetti, 1986; Sandberg and Hofer, 1987; Monck et al., 1988; Keeble, 1990). A key assumption of the deterministic perspective is that the role of management is relatively ineffectual in determining the performance of the organization. This is often cited as the reason why deterministic approaches to understand growth have largely been unable to explain micro-level variations such as the growth or non-growth of small business within particular sectors (Hakim, 1989; Gibb and Davies, 1990; Davidsson, 1991).

1.2.2 The voluntaristic perspective

Contrary to the deterministic perspective, there are those who believe that individual managers and their objectives are ultimately responsible for explaining whether or not a business grows beyond a certain size. Van de Ven and Astley (1982; 1983) describe the pole opposite to deterministic as voluntaristic. Voluntaristic research is based on the premise that the decisions, abilities, and motivations of the individual will provide an explanation for the behavior and ultimately the performance of the organization. The unit of analysis for voluntaristic research is therefore primarily at the individual or group level. This concentrates on the role of management in explaining the performance of the business. A voluntaristic view of small business performance is presented in a framework devised by Lafuente and Salas (1989) shown in Figure 2.

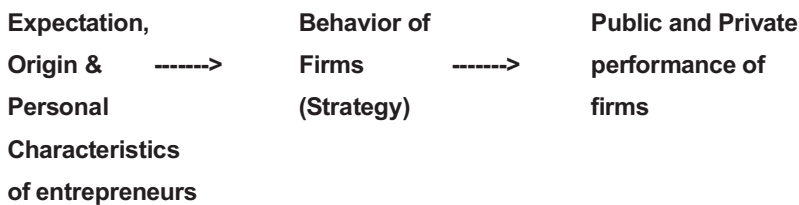


Figure 2: A Typology of Entrepreneurs and Firms (Lafuente and Salas 1989)

In figure 2 the framework assumes a direct link between the characteristics and aspirations of the individual, the behavior of the business, and ultimately the observed performance of the business. In contrast to a deterministic perspective, this view makes the individual owner-manager a central element in the subsequent performance of the business. Voluntaristic research into small business growth can be grouped into a number of perspectives.

Sequential models of growth have been put forward by a number of researchers (Steimetz, 1969; Greiner, 1972; Churchill and Lewis, 1983; Flamholtz, 1986; Scott and Bruce, 1987). These models are based on the assumption that as it develops an organization passes through a number of sequential stages. Whilst the orientation of these models is deterministic, in that growth is described as a function of time, as movement along the model is largely dictated by managerial choice and ability; it is therefore voluntaristic. The transition between stages is often referred to as a crisis point

which may or may not be confronted. Greiner refers to the crises of autonomy, control, and red tape (1972: 42, 43). At these points owner-managers may resist the pressure to grow as they believe that this will bring about what is undesirable change from their perspective.

1.2.3 The limiting effect of managerial abilities and motivation

An ongoing theme in the voluntaristic literature on organizational growth is the limiting effect of managerial abilities and motivation on the development of businesses. This is referred to by Penrose (1959) as the managerial limit. At this point, the complexity and scale of the business pushes the owner-manager's abilities to the point that further increases in size yield no further benefits and may even increase costs. This has very real implications for the small business. As noted by McGuire (1976), growth in the small business can be viewed as a function of the bounded managerial expertise within the business: in order for businesses to grow, managers have to develop their own expertise.

Central to Penrose's growth theory are the *adjustment costs* (henceforth AC) of growth and the *productive opportunity set* (henceforth POS) facing the firm (Lockett et al., 2009). The adjustment costs (ACs) of growth consists of the time and effort required to integrate new managers and operations in expanding the activities of the firm. The development of managerial resources takes time, which sets an ultimate limit to how fast firms can grow. ACs, however, only relate to firms that have been able to identify and exploit a growth opportunity. The identification and exploitation of growth opportunities is inextricably linked to managers' subjective assessment of their productive opportunity set, which is influenced by the resources of the firm (Penrose, 1959: 85), including its experience and knowledge base.

Even operating with the same set of resources, different managers may generate entirely different services from these resources (Penrose, 1959; Kor, Mahoney and Michael, 2007). To date, empirical tests of Penrose's theory have been limited to the ACs of growth. Lockett et al. (2009) argue that a focus on ACs of growth, to the exclusion of any consideration of the productive opportunity set (POS), will provide only partial and potentially inaccurate insights into the growth of firms (see Geroski, 2005, for a critique of the focus on ACs). To address this limitation they investigated the relative impact of ACs and POSs arising from a strategy of organic (internal) growth versus acquired (external) growth. Penrose made it clear that *organic growth* (henceforth OG) and *acquisitive growth* (henceforth AG) are two different strategic options facing the

managers of a firm. She clearly outlined the effects of organic growth (OG) on ACs and POSs, and their subsequent effects on future organic growth. However, she was largely silent about the effects of acquisitive growth (AG).

Central to Penrose's theory is that opportunities for, and limits to, future growth are generated by the resource accumulation of past growth. The past use of one mode of growth has consequences for future organic growth. Penrose was clear that previous OG may act as a constraint on current OG. Furthermore, she wrote that: "The significance of merger [and acquisition] can best be appraised in the light of its effect on and limits to internal growth" (Penrose, 1959: 5). Penrose did not, however, explain how AG influences ACs and POSs, and subsequently the future OG of the firm.

In revisiting Penrose's writings it is important to acknowledge that they are a product of her time (Lockett and Thompson, 2004), which necessitates a re-examination of her ideas when applying them to a contemporary context. Her ideas were informed by inductive reasoning based on her own observations of businesses and their environment. The 1950s was a period of sustained economic growth. Consequently, she explicitly states that her theory assumes that there are no external limits to the growth opportunities of firms. The assumption of unlimited growth opportunities does not hold today given slower economic growth and increased international competition. In comparison to the 1950s, economic growth for European nations was much slower at the end of the 20th century. In addition, financial liberalization and innovation during the last 20 years of the 20th century led to an increase in the availability of inexpensive debt. Low costs for debt encourages debt-financed takeovers just as a booming stock market cuts the cost of capital. Hence it became easier for firms to pursue a strategy of growth through acquisition.

Lockett et al. (2009) develop arguments in relation to the OG and AG of firms by revisiting and extending Penrose's work in light of recent developments in the areas of the *resource based view*, RBV (see: Wernerfelt, 1984; Dierickx and Cool, 1989; Barney, 1986 and 1991); the RBV interpretation of acquisitions (see: Harrison, Hitt, Hoskisson and Ireland, 1991; 2001); and the organizational literature on path dependency and inertia (see: Cyert and March, 1963; Miller, 1994; Vermuelen and Bakema, 2001). Consistent with Penrose, their theoretical and empirical focus is on the growth of firm resources. Specifically, they focus on employment growth because they are primarily interested in extending Penrose's theory of growth, which concerns "the expansion of human and other resources" of the firm (Penrose, 1995: xi).

Firm growth requires the successful matching of perceived opportunities with combinations of resources. It is the matching of resources to perceived opportunities, rather than the size of the resource stock per se, which determines the scope of the firm's POS. The POS can be expanded by increasing the knowledge base of a firm, which may lead to new insights into how to better utilize existing resources, and/or expand the resource base of a firm, which may lead to more potential resource combinations, in turn creating new growth opportunities.

It is unlikely, however, that the exact same set of resources can be used to expand the firm's POS ad infinitum. Over time firms develop routines of limited scope, which constrain their ability to recombine existing resources (the Nelson and Winter, 1982; see also Selznick 1948; 1957), and previous activities and resource uses limit the possibility for learning outside of areas where the firm already holds prior knowledge (Teece, 1987; Cohen and Levinthal, 1990). Winter and Szulanski (2001) note that managers develop their business practices by honing increasingly detailed routines, adjusting and fine-tuning the same actions over and over again. Such path dependence leads firms to becoming increasingly myopic in their search for new ways of recombining existing resources (Levinthal and March, 1993). When searching for new opportunities, managers tend to search close-in before moving into uncharted terrains (Cyert and March, 1963). Over time, organic growth will lead to the repeated exploitation of existing resources, which may result in firms becoming "simple and inert" (Vermeulen and Barkema, 2001). Rigidities created by the repeated use of resources (Miller, 1994) will potentially hinder the future organic growth rate of the firm, especially in the face of a dynamic environment.

Furthermore, the development of new resources through organic growth will be limited in the short run, in terms of both quantity and variety. Penrose argues that the new resources will be close to their existing operations because of path dependency (1960: 2-3). This point is echoed by Wernerfelt (1984) when he argues that tomorrow's strengths tend to be built on today's strengths. The development of similar, not complementary, resources will arguably hinder the expansion of the firm's productive opportunity set. This argument is consistent with the literature on acquisitions that argues that it is complementarities and not similarities that create new opportunities for firms improved performance (see: Harrison et al., 1991; 2001).

Consequently, Lockett et al. (2009) believe that the POS of the firm may be smaller and more difficult to expand than Penrose predicted. The problem facing firm managers is that previous organic growth permits only an incremental expansion of the firm's POS

(i.e. POS organic o), while they simultaneously exploit the POS through current organic growth. Consequently, firm managers will find it increasingly difficult to maintain a high rate of organic growth from one period to the next because firms that have exhibited high organic growth rates in the past will have already harvested the closer and easier growth opportunities. In order to sustain a strategy of organic growth, firms need to search further from their existing operations. However, due to path dependence and associated organizational rigidities, the pursuit of growth opportunities in new fields of activity is inherently costly and difficult.

In summary, previous organic growth will have the dual constraining effects of imposing ACs of managing the growth process and permitting only an incremental expansion of the firm's increasingly exhausted POS (Locket et al., 2009). Consequently, the managers of the firm will find it increasingly challenging to maintain the firm's current rate of organic growth. As a basis for growth, this challenge of self-development and learning has been recognized by many of those researching the behavior of small businesses (Davidsson, 1991; Kirby and Mullen, 1991).

March (1991) demonstrates that there are strong pressures within organizations to exploit already existing competencies, technologies, and resources rather than exploring new ones, leading to limitations in the variety of the resource and knowledge bases of the firm. One way of overcoming this homogenization of resources is to bring outsiders into the firm. Similar to Penrose, March (1991) notes that these newcomers are likely to be less knowledgeable than existing staff about the firm's operations, but the variety of their knowledge that they bring outweighs their lack of knowledge. This speaks to the qualitative differences between an OG generating limited variety in the resource base and an AG generating greater variety and thus greater chances for extending the POS of the firm. Locket et al. (2009) argue that these insights from organizational learning will hold important insights into the differences between OG and AG and their effect on the future growth of the firm.

Kroeger (1974) identifies managerial capability as the ability to solve conceptual and people problems; this is in contrast to the functional skills needed to produce the product or service. He suggests that small businesses need to develop more centralist skills: these combine the functional skills needed with the generalist capabilities of a general manager.

A further issue in considering the capabilities of the owner-manager is that different individuals may be more suited to different strategies and contexts. Wissema et al.

(1980) consider how differing capabilities and leadership styles may be more suited to different growth strategies. The deterministic and voluntaristic orientations provide two distinctive perspectives for understanding organizational growth: that of the innate organization at one extreme or the individual manager making deliberate choices, at the other. Both have an obvious role to play in enhancing our understanding of business growth. However, in the small business context, a uniquely intimate relationship exists between the business and its owner. It is this relationship which leads many researchers to take the position that the subjective views and goals of the owner-manager ultimately determine whether the small business actively grows (Boswell, 1973; Barkham, 1990; Gibb and Davies, 1990; Davidsson, 1991).

Lockett et al. (2009) state that arguably of more importance is the nature of the firm's POS. Firms which are able to grow rapidly will have large POSs. Where the POS is sufficiently large, the firm will only be able to capitalize on a small proportion of the available growth opportunities in the short run. Consequently, the firm will be insulated from the problem of their POS becoming increasingly exhausted and from its associated constraint on future organic growth in the short run. This raises interesting questions as to what determines the POS of firms. There are two possible explanations. First, certain competitive environments will present greater growth opportunities than others and hence, *ceteris paribus*, act to increase a firm's POS. Second, and arguably of more importance, is the firm's ability to expand its POS irrespective of its current competitive environment. This relates back to Penrose's key distinction between the managerial and entrepreneurial capabilities of the firm and her emphasis on entrepreneurial capabilities being central to firm growth. As managerial capabilities are practical in orientation they are more easily developed than entrepreneurial capabilities, which are a function of the imagination (Penrose, 1959). Consequently, entrepreneurial capabilities the key resource (being: valuable, rare, imitable and non-substitutable in RBV parlance) that differentiates a firm's abilities to overcome a growth constraint.

The importance of manager's subjective assessments of the resources at their disposal, allied with their imagination, raises interesting issues for both future developments of Penrose's growth theory and the RBV (Kor et al., 2007). Lockett et al. (2009) argue that researchers need attend more closely to the processes by which managers make decisions about resources and growth. To date, insights from cognitive theory have been applied to modeling managers' mental models of the competitive landscape (see: Porac and Thomas, 1994; Porac, Thomas and Baden-Fuller, 1989; Porac, Thomas, Wilson, Paton and Kanfer, 1995; Hodgkinson, 1997). They contend that a cognitive perspective on firm growth and the RBV can help to overcome these limitations and can open

avenues for further research. They add that future work needs to embrace the importance of managers' subjective decisions about the functionality of resources at their disposal rather than reify resources as objective entities waiting to be discovered through some formal analysis. In reality resources may only exist in the eye of the beholder, which is consistent with Wernerfelt's (1984) argument that a resource is anything that is a strength or weakness of the firm. Resource functionality remains an under-researched aspect of the RBV (Lockett et al., 2008).

1.2.4 Relaxing the assumptions of the unit of analysis

Recent developments in economics and management have highlighted that organizational boundaries are becoming increasingly blurred (Powell, 1990). An interesting direction for future developments of Penrose's growth theory will be to relax the assumption that the firm is the unit of analysis in order to examine the role of alliances and networks between firms. Lockett et al. (2008) outlined the implications of two specific forms of network arrangement (which incorporate alliances): relational networks and modular production networks (see Sturgeon, 2002, for a review).

Relational networks are based on organizations with complementary strengths, recognizing their interdependence on one another, and linking together for mutual benefit in an open-ended manner (see: Powell, 1990 for a review). In many knowledge-rich environments such as high-tech industries, relational networks have developed (which are commonly clustered geographically) in order to promote knowledge flow between firms in order to foster innovation (e.g. in the case of Silicon Valley see: Saxenian, 1991 and 1994). The access to more diverse sources of information may have a positive impact on expanding the POS of the firm as managers become more aware of new market opportunities and/or are able to access complementary knowledge. As such, relational networks may enable firms to avoid making acquisitions in order to gain access to new sources of information and to expand the POS of the firm. Arguably future studies on firm growth should examine the potential role of relational networks (which encompass alliances) in relaxing the growth constraint on firms.

In modular production networks the lead firm (e.g. Apple) engages in the innovation, design and marketing of new products but out sources production, on the basis of market relationships, to turn key suppliers who engage in contract manufacture (Sturgeon, 2002). As such, the lead's sole attention is focused on how to develop the POS of the firm whilst outsourcing many of the problems of managing the growth process of manufacturing operations to external firms. By outsourcing production the

lead firm may be better able to reap the value from innovation while spreading the risks from volatile demand (Venkatesan, 1992). In modular production networks, the full employment effects of the lead firm's activities will not be fully accounted for by their change in employment. Therefore, future research into firm growth may need to embrace the changing nature of production and the role of modular production networks by focusing on employment effects across the whole network.

Lockett et al. (2009) suggest that the important role possibly played by the POS of a firm in constraining or enabling the future organic growth of the firm and the importance of the ACs of growth may have been overstated by Penrose (1959). Hence, managers need to focus their attention on how they can influence the expansion of the firm's POS over time. If diversity and synergy within a firm's resource base lead to a larger POS, and hence to enhanced opportunities for future growth, firm managers need to think how they can achieve diversity and synergies within their resource base. If firms rely exclusively on organic growth then managers need to be alert to the potential problems of the path dependence, and the potential for limited learning outside of areas where the firm already holds prior knowledge (Teece, 1987; Cohen and Levinthal, 1990).

Lockett et al. (2009) findings attest to the importance of acquisitive growth as a means of expanding the firm's POS and hence future organic growth. They stated that acquisitive growth may be a strategy for overcoming the problems of path dependence associated with an exclusive focus on organic growth. The acquisition, in effect, should be viewed as a strategic option for managers to break the path dependence of the firm and its associated development of close-in resources, to permit broadening of the resource base and the potential to create new synergies. The issue facing firm managers is how to develop the skills necessary for a strategy of acquisitive growth and hence stimulate future organic growth in a profitable manner. Clearly, any strategy of acquisition should be predicated on the existence of resource synergies between the two companies, which if private will be more likely to lead to positive financial returns (Harrison et al., 1991; 2001). This will require managers to have a good understanding of the nature of both their own firm's resource-base and the target firm's resource-base, which is a fundamental element of any RBV-based strategy (Lockett et al., 2009).

Finally, the existence of a curvilinear relationship between previous and current organic growth suggests that some firms may have sufficiently large POS that they do not face a growth constraint (Lockett et al., 2009). Furthermore, the ACs of organic growth do not appear to be problematic for future growth. In the growth rate range 0-66% there is a trade-off between previous organic growth and current organic growth (the quadratic

and linear relationship being effectively the same up to a growth rate of 30% per annum). However, for growth rates above 66% the growth constraint is not effective. This finding raises interesting managerial issues as to why some firms are able to develop much larger POSs than others and to what extent they are able to sustain very high growth rates in the medium to long run. Anecdotal evidence of firms such as Microsoft and Google indicates that a small number of firms in fact achieve extraordinary growth rates over extended periods of time by exploiting opportunities that appear more or less inexhaustible. These firms also face managerial challenges, but these are different in nature – more closely associated with the problems of integrating new people into the business (cf. e.g., Hambrick and Crozier, 1985). Stated differently, the managerial problems of these firms are more similar to those noted by Penrose.

Lockett et al. (2009) make an assumption concerning the nature of the resources that are added to the firm through organic and acquisitive growth respectively. However, these resources remain unobserved. They share this limitation with the vast majority of growth studies. More detailed information about the nature of resources involved in growth (e.g. resource complementarities) would have provided a deeper understanding of how a previous growth mode can help fuel future OG. The nature of resources falls into the category of unobserved heterogeneity together with other unobserved variables (Lockett et al., 2009).

1.2.5 Recent research on small business growth

Small firm growth and especially new venture growth has raised a lot of empirical research recently (e.g. Davidsson, Achtenhagen and Naldi, 2005; Wiklund, Patzelt and Shepherd, 2009). Theoretical background and frameworks of these studies represent wide spectrum of entrepreneurship and management theories including for example industrial organizations, strategic management, life-cycle theories, the resource-based view, and literature on gazelles. In addition, data and methodological choices include both cross-sectional and longitudinal data as well as quantitative and qualitative approaches.

The growth of the firm has been evaluated in terms of management and the development of new activities as well as the reformulation of a firm's problems and goals. Several authors have noted that there is no single theory that can adequately explain new business growth (Gibb and Davies, 1990). According to Gibb and Davies (1990), previous studies of growth have included four main types of approach: the

impact of the entrepreneur's personal characteristics, the strategic factors affecting the firm's performance, sectoral and market-led approaches, and organizational development approaches (Smallborne et al., 1995).

Barringer, Jones and Neubaum (2005) completed a literature review including 106 articles, book chapters and books on firm growth and performance from the entrepreneurship, management, and economics literatures which focused on systematic differences between rapid-growth firms and their slow-growth counterparts. They classified prior literature in four major areas: founder characteristics, firm attributes, business practices, and human resource management. In order to test the framework Barringer et al. (2005) interviewed 50 high growth and 50 non high growth companies. The measure of growth they used in their analysis was cumulative sales growth during the three year consecutive period which should be more than 20% annually for high growth category. From the content analysis, Barringer et al. (2005) discovered new variables in three categories. The new variables suggested were entrepreneurial stories of founder characteristics, customer knowledge in business practices, and training and employee development in HRM practices.

Sandberg (1986) carried out one of the earliest studies integrating the effects of various forces on new venture performance. Sandberg and Hofer (1987) tested their model on a sample of 17 ventures drawn from the files of venture capital firms. They found no support for the effects of the entrepreneur's characteristics, even though they did find support for the interactive effects of venture strategy and industry structure on venture performance. McDougall (1987) and McDougall et al. (1992) introduced a model that explained a great deal of the variance in new venture performance. McDougall et al. (1992) demonstrated that not only strategy and industry structure are important, but that their interaction also affects new venture performance.

Cooper et al. (1994) found that a higher level of education and greater industry-specific know-how that could be interpreted as work experience were typical for successful and growing firms. Thus entrepreneurial skills could be measured by using an entrepreneur's past work and entrepreneurial experience, the type of vocational training, and age as indirect variables for skills. They found that the chances of both survival and high growth were positively associated with having a higher level of education, greater industry-specific know-how, and larger initial financial resources. Another study that directly compared low-growth with high-growth firms found that

the range and intensity of business networks was markedly higher in the firms that grew rapidly (Zhao and Aram, 1995). Smallbone, Leigh, and North (1995) found out that the best performing firms were the most active in managing their products and markets. In product arenas this means developing new products and services, taking steps to make their products more competitive and managing their product portfolio.

Sapienza and Grimm (1997) developed three separate models for testing the goal achievement performance in short-line railroads. The variables they used in their analysis included the founder's characteristics, start-up processes, and the combination of strategy and industry structure. While specific variables within these dimensions may vary from industry to industry, Sapienza and Grimm (1997) suggest that all four dimensions are important in determining performance. The best models are likely to combine perspectives rather than tackle the issue from one perspective only. In general, the strategy/structure perspective appeared to be the strongest when other variables were left out of the models, but clearly the best models incorporated founder and start-up process characteristics as well (Sapienza and Grimm, 1997). Chrisman et al. (1999) specified in their extended model that the performance of a new venture is a confluence of factors that encompass attributes of entrepreneurs, industry structure, business strategy, resources, organizational structure, processes, and systems.

Ensley and Spencer (1997) proposed that the entrepreneurial team is a logical theoretical addition to the new venture performance model. The performance of the entrepreneurs or the entrepreneurial team should fit the task environment and strategy. The entrepreneurial team understands the environment and the strategies of the firm well enough to make them fit and meld. Vyakarnam et al. (1998), however, state that further studies of the extended models with reliable and valid scales are necessary before a more complete and scientific view of the new venture performance model can be established.

Veronique, Schutjens and Wever (2000) studied the determinants of success of Dutch start-up firms. They concluded that the typical successful start-up firm did not exist. Successful start-up entrepreneurs made some preparations, had a business partner and experience as a salaried employee, and entered an industry sector with growth potential.

Baum, Locke and Smith (2001) tested a comprehensive multilevel model of venture growth including average annual sales, employment, and profit as measures of

growth. Their theoretical model included personality traits and general motives, personal competencies, situation-specific motivation, competitive strategies, and business environment. They found that the competencies and motivations of CEOs and competitive strategies were direct predictors of venture growth. The personal traits and general competencies of CEOs and the environment had significant indirect effects on venture growth. Pasanen (2003) listed several factors affecting the success of the firms, including e.g. entrepreneur, management, products and services, customers and markets, the way of doing business, cooperation, resources and finance, strategy, and external environment.

Chetty and Cambell-Hunt (2003) examined the relationships between rapid international growth and business networks and how networks contribute to success. From the outcome of the case studies they concluded that business networks offer the only vehicle for internationalization when the process is sudden and involves large increases in capability and specialization. This implies that the use of external resources through networking is of the utmost importance for rapidly internationalizing firms. This outcome is supported by Littunen and Virtanen (2009), who state that lively interplay between entrepreneur and external personal networks increases the odds of becoming a growth business. Heimonen and Virtanen (2008) proposed that public R&D funding for product development will be significant for innovativeness of SMEs.

Chan, Bhargava, and Street (2006) explored the homogeneity of small firms that have achieved and sustained high growth. They survey and content analyze of 91 Canadian firms using data from 2001. Chan et al. (2006) grouped management challenges as follows: a) customer management and marketing, b) managing business growth and development, c) financial management, d) leadership, e) HRM, f) external environment. Small high-growth firms experience similar management challenges regardless of the industry, size, and revenue level of the firm.

Wiklund, Patzelt, and Shepherd (2009) developed an integrative model of small business growth. As measures of growth they use relative sales growth and sales growth compared to competitors, relative growth of employment, and value growth (market value) compared with competitors. They conclude that resources have only an indirect effect on growth but environmental dynamism appears to have a complex relationship with changes over time i.e. growth. Wiklund et al. (2009) argue that entrepreneurial orientation and growth attitude have a strong direct impact on growth.

Littunen and Virtanen (2009) examined what factors differentiate growing firms the non-growth ventures by using the contingency approach as the theoretical framework. They discovered that the growing ventures were more probably opportunity-driven (pull motivation), more often used external financing (loans and public funding) at the start-up stage, applied group management style, had increased their production capacity, were adopting a specialized product policy but focusing on current customers, and were more open to external discussion. Littunen and Virtanen (2009) concluded that growing businesses were likely to be extrovert in their communication but mainly used their internal strengths as a competitive edge in the market place.

1.3. Team research

1.3.1 Research on entrepreneurial teams

An increasing number of practitioners and academics has become interested in the issue of entrepreneurial teams and the growth of the firm. First, entrepreneurial teams are more common than could be understood from the entrepreneurship literature emphasizing individual entrepreneurs. Second, accumulated evidence suggests that an entrepreneurial team can make quite a difference in venture success. Third, the common interest has shifted from habitual enterprises to growth enterprises since it has been noticed that habitual entrepreneurs do not deal with wealth creation in the economy.

Entrepreneurial teams were originally linked to start-ups in the high technology industries (Obermayer, 1980; Teach, Tarpley and Schwartz, 1986; Cooper, 1973). It was argued that high technology industries require more skills than a single individual would be likely to have, necessitating that individuals combine their abilities in teams in order to start an organization successfully. A few studies (DeCarol and Lyons, 1979; "Inside the Inc.," 1983) showed, however, that entrepreneurial teams were also common in other industries. A number of studies confirmed that successful ventures were often established by teams rather than by a single person (Cooper, 1973; Baty, 1974; Bird, 1989; Goslin and Barge, 1986; Rich and Gumpert, 1985; Cooper and Bruno, 1977; Teach, Tarpley and Schwartz, 1986; Utterbach, Meyer, Roberts and Reitberger, 1988; Doutriaux, 1992).

Brockaw (1993) stated that in the USA of the youngest 306 Inc. 500 companies (started in 1985-1987), almost two-thirds were started by teams. He also quoted a study of 1709 businesses which found that only 6 percent of "hypergrowth" ventures were founded by a single person; 54 percent had two founders and 40 percent had three or more founders. This contrasted with low-growth companies, where a full 42 percent were started by individuals. Brockaw notes "it is apparent that companies that grow begin differently from the ones that do not, in a handful of starkly identifiable ways. One of these is that they rely on team effort." (pp. 56-64).

According to Mangelsdorf's (1992) study, almost 60 percent of the 500 fastest growing private American companies in 1992 had started with two or more partners. Obermayer (1980) found that only 30 percent of the firms founded by individuals that he had studied reached an annual sales volume of \$6 million, whereas nearly 70 percent of the team-founded firms reached this level. Timmons (1984; 1990) observed that when measured by longevity and profitability team ventures were more successful than those started by solo entrepreneurs.

Kamm et al. (1990) found that 56 of the 100 best performing firms were team ventures and that team ventures had higher revenues, greater net incomes, and more successful market capitalization than non-team ventures. In addition, teams speeded product development and commercialization (Nevins, Summe, and Utal, 1990), particularly in a dynamic environment (Bingham and Quigley, 1989). Teach et al. (1986) reported that "the size of the venture team was important to the firm's success" (p. 550) and "larger venture teams were more successful on the average than individual entrepreneurs" (p. 561).

The literature of new venture creation states that there is a strong connection between the growth potential of a new venture (and its ability to attract capital beyond the founder's resources from private and venture capital backers) and the quality of its management teams. The team approach to founding a company allows individual founders to bring along their expertise in technology, marketing, finance, management, or other fields. Compared with solo entrepreneurs, venture teams can provide greater resources, varying points of view, greater checks and balances, and a broader array of ideas and abilities (Dunn and Lee, 1989; Hansen, 1991; Hofer and Sandberg, 1987; Kamm, 1987). Venture capitalists rarely consider a business proposal based on the talents of a single individual; rather, the skills and experience of the entire venture team are essential (Kamm et al., 1990).

The literature in the area of small business development and growth emphasizes the ability and motivation of entrepreneurs to develop and gain the resources and skills needed to be able to grow within growth stages and from one growth stage to the next (e.g., Greiner, 1972; Churchill and Lewis, 1983; Acar, Melcher and Aupperle, 1989). Chell and Haworth (1991) argue that the ability of entrepreneurs to build a strong and effective team is one of the key factors in growth.

The team effort may be crucial at the start-up-stage, when firms need an abundance of a variety of resources but in general lack it. However, the impact of early team effort is not limited to the start-up-phase. As the entrepreneur's intentions fuel the direction of the firm and determine its size and growth potential (Bird, 1988), the collective team effort may contribute essentially to these intentions and thus the growth potential of the firm. On the other hand, early decisions set young organization on a course that may be difficult or costly to change (Boeker, 1989) because structures and processes develop quickly (Gersick 1989) and organization members equally quickly come to see them as the only way to do things (Zucker, 1977). Structures and processes become part of an integrated whole in which it is difficult to change one element without unraveling the whole (Eisenhardt, 1988).

1.3.2 The formation and development of entrepreneurial teams

In the previous literature the formation of entrepreneurial teams has been characterized as being "random" (Silver 1983: 127) and difficult (Silver 1983: 127; Rich and Gumpert, 1985: 129). On the other hand, research has shown that most entrepreneurial teams consist of friends, relatives, and/or associates from former employers or educational institutions, indicating that they emerge from existing relationships (Bird, 1989; Lloyd, 1986; MacMillan et al., 1985; Neiswander et al. 1987; Timmons, 1979).

In examining the structure and dynamic processes of entrepreneurial partnerships (which may consist of more than two individuals), Bird (1989: 220) draws from social psychology concepts about dyads and small groups. She has identified five key processes: attraction, bonding, projection, conflict, and development. The forces that have been hypothesized to bring people together for any purpose include the following: likeability; proximity; enjoyment of each other's company; alikeness; and "complementarity of characteristics." In the entrepreneurial context, possession of money to invest, and experience and expertise needed for success in the venture also attract potential team members to each other (p. 221).

Nonetheless, apart from prior friendship and family relationships, the details of the mechanisms used to find people to become attracted to each other in the first place are not clear (Kamm et al. 1990: 10). The role of industry and professional and social networks in venture creation has been discovered (Vesper 1976) and increasingly explored (Aldrich and Zimmer, 1986; Ronstadt and Peterson, 1988). Moreover, networking may connect with prospective partners, both consciously and by accident (Kamm et al. 1990: 10).

As entrepreneurship process is characterized as non-linear, chaotic and unique, and impossible to generalize, team formation also reflects these characteristics to some extent. Despite these characteristics, we assume that some regularity (i.e., underlying mechanisms relevant to the theoretical contexts) can exist. For example Timmons, Smollen and Dingee (1977) argue that the success of entrepreneurship is a result of the interaction between entrepreneurial team characteristics and product and market characteristics. The team characteristics are operationalized mainly by the resources and skills of team members. Among the costs and problems that researchers of new venture formation have identified, ensuring that teams are well balanced in terms of the members' functional expertise (MacMillan et al., 1985), management skills, decision-making styles, and experience (Timmons 1979: 198) is important. Growth literature suggests that increased professionalism and specialization is necessary as firms develop (Greiner, 1972; Churchill and Lewis, 1983). A gap arises between the characteristics needed and those that emerge because of the inability or unwillingness of lead entrepreneurs to identify their own weaknesses and to find others to compensate for them (Timmons, 1979).

An implicit assumption of the prescriptions about what entrepreneurs ought to do before starting new ventures is that they already have the idea for the product or service that the new firm will provide (Ronstadt and Shuman, 1988). That concept is then used as the reference point against which team-building and assessment decision can be made. Also, most models of group development assume that the group has already formed to achieve a common purpose (Mills, 1967; Luft, 1984). It is possible, however, that some entrepreneurial teams first form and then generate the concept for the new business together (Bettters-Reed and Bartunek, 1985; Lloyd, 1986). For example, the formation of Compaq Computer is described as follows: "In the beginning, there was the team ... all senior managers at Texas Instruments, Inc. ... Together they decided to strike out on their own. ... Aside from that, little else was clear. ... Not even the type of business they would go into..." (Kotkin 1986: 48).

Timmons points out that "the goals and values of the founders are often unclear or unarticulated. They may not be aware of why they are so intent on starting their own businesses. They may have started it for the wrong reasons" (1979: 191). Ronstadt and Shuman (1988: 23) state that compelling interest are subjective (gut) feelings and are often expressed as - I am driven by an almost insatiable hunger for experiences such as ... acceptance, freedom, power, control, respect, security, service to others, etc.. Thus the clear communication of motivations can be a problem. Executives who have a history together have probably learned how to get along and communicate with each other. This is likely when they have chosen to form a new firm together.

The literature concerning venture creation emphasizes that necessity for a team to be effective its members must have a clear understanding each other's reasons for starting the new firm. These reasons must also be compatible. Ronstadt and Shuman (1988: 23) explain it as follows:

The first step in the venture creation process is for the lead entrepreneur to identify his or her compelling interest.

When a venture is started by a team, the lead entrepreneur must make sure that all team members have identified their own compelling personal interest and are able to align it with the venture's mission. To improve the likelihood of starting a successful venture it is critical for all team members to focus on the same vision of the venture's mission. This focus is realized only when each founder is able to align his or her compelling interest with the venture's mission.

Systematic self-assessment (Cossman, 1975; Osgood and Weitzel, 1976; Swayne and Tucker, 1973; Timmons, 1979; Webster, 1976) and evaluation of the skills and compatibility of prospective team members (Osgood and Wetzel, 1976; Timmons, 1979) prior to starting a new business have long been prescribed. Whether in fact entrepreneurs consciously follow these suggestions is largely unknown, although there is evidence that some do. According to one of the co-founders of Metier Management Systems, "We spent lots of time ... looking at what we might do together, and once that was set, looking for the other two people who would fit in" ("Inside the Inc." 1983: 74).

Among the forces that have been hypothesized to bring people together are: likeability; proximity; enjoyment of each other's company; alikeness, and complementarity of characteristics. In the entrepreneurial context, possession of money to invest and

experience and expertise needed for success in the venture also attract potential team members to each other (Bird, 1989: 221)

Group dynamics research focus on the psychological and emotional aspects of groups life which (Tuckman, 1965) first synthesized as a unitary sequence that is frequently cited today and consists of “forming, storming, norming, performing.” More recently “adjourning” has been added (Tuckman and Jensen, 1977). Team development has also been constructed as a linear process, within a closed system (for example Goodstein and Dovico, 1979), on the other hand (Scheidel and Crowell, 1964; Fisher 1970) scholars have found that groups progress in iterative cycles. Goodman et al. (1986; 1987) demonstrated the importance of considering the group in context, while Bettenhausen (1991) found increasing research attention focused on the processes through which group members developed a shared understanding of appropriate actions.

Our seminal study on the overall developmental trajectories of 14 team based businesses hypothesized that four "sedimented" phases could be interpreted while the formation and development of an entrepreneurial team (Vyakarnam, Jacobs and Handelberg, 1997). They were spontaneous starts, growth-seeking, visionary, and institutional. The analysis of the interview data suggested shifts in emphasis between team entry issues, team interpersonal relationships, group cohesion, communication within the group, and clarity of roles, and the tasks of team members occurring during different stages of the entrepreneurship process. Spontaneous starts are the least formal stage in the life of a team as it comes together and usually result from a business opportunity and/or the mutual attraction between two or more people. Team members might know each other from previous social or work contexts and have developed a certain amount of trust in each other. However, because there is a lack of experience of entrepreneurial behavior between the team members, much of this phase is taken up with testing and assessing each other, building communication, and gaining experience in working together.

The growth-seeking phase is characterized by collective motivation for growth. However, there may not be any clarity regarding how to achieve it. The team also begins to focus on the development of resources, knowledge, and skills in order to compete effectively in the market place. Teams appear to be motivated by business success, getting early “scores on the board,” and preparing the foundations for a “serious business.” The visionary phase is characterized by teams having formed a clear business vision with tangible goals to achieve it. The vision and goals are also shared by the top team. Simultaneously, the team also clarifies the tasks and roles needed to achieve a shared understanding of the contributions of each member, based on a continuous

evaluation process. The institutional phase of team formation is characterized by a distinct shift of loyalty from the founders to the “flag,” where the top team and others are more concerned about the business and its future direction than what the personal ambitions or even values of the founders might be.

1.3.3 Motivational mechanisms underlying team development

Several scholars in the field of entrepreneurship have emphasized the role of motivation in understanding entrepreneurial activities (e.g., Herron and Sapienza, 1992). Shaver and Scott (1991) suggested the need to re-conceptualize the nature of entrepreneurship by focusing on the individual and social/psychological processes involved in entrepreneurial activity (Shaver and Scott, 1991). In addition to external conditions, the focus should be on the individuals in whose minds all of the possibilities come together, who believe that innovation is possible, and who have the motivation to persist until the job is done. There are also several authors studying the motivation-cognition interface who share a view of motivation as having its effects through cognitive processes. Although people rely on cognitive processes and representations to arrive at their desired conclusions, motivation plays a role in determining which of these will be used on a given occasion (Kruglanski and Freund, 1983; Kunda, 1987; 1990; Pyszczynski and Greenberg, 1987; Sorrentino and Higgins, 1986).

Based on the above arguments and by referring to the contradictory findings of group research, we may argue that it is not the shared cognitions themselves, but the cognitions together with the underlying motivation/motives that contribute to our understanding of the behavior and dynamics of successful groups/teams. It could be also argued that this motivation-based approach to understanding group behavior is especially critical in the entrepreneurial context, where new innovative systems of meanings are negotiated. Shared understanding in entrepreneurial conditions (in the objective terms) might even be impossible, and it is at least a highly relative concept. In the entrepreneurial context, we should seek - instead of to find shared understanding - to understand the motivational system, taking the epistemic and action process of the group further.

Our case study (Handelberg and Vyakarnam, 1998) sought to contribute to the understanding of the formation and development of entrepreneurial teams by exploring the motivational aspects involved in the activities of the group. Our aim was to enhance understanding of the dynamics that takes a team from one phase to another, or rather that makes the phases interpreted or constituted. This study was aimed to be a step

towards a complementary conceptual framework for understanding the dynamics of entrepreneurial groups. Drawing on the literature involving venture creation and growth and the theories of small groups, social cognition, and motivation, we developed a set of preliminary propositions concerning the motivational links between groups and their epistemic and action processes.

First, we proposed that there might be motivational link between the vision of a group and the dynamics of its epistemic and action process. We based this on the view that any feeling and thought can be the source of motivation if it is in some way associated with motivational stimulus (e.g. Weiner, 1992) that would again be reflected in the dynamics of the epistemic and action process. We also argued that the vision may be able to cover motives from different levels of hierarchies or types.

The second proposition concerned the possible motivational link between the values of the group and the constructive epistemic and action process of group. It has been argued that values (e.g. belief in a just world) are the key issue providing stimulus for self-defensive motives (Pyszczynski et al., 1997). If strong common values exist in the group, positive motivational stimuli will be attained and then reflected in constructive group behavior.

The third proposition concerned the motivational link between group processes and the dynamics of the epistemic and action process of groups. It was argued from the literature that humans have an incentive for inconsistency (McClelland, 1987). On the other hand, the process can be seen as the main source of stimulus for the self-expansive motive (Pyszczynski et al., 1997). Based on this, it could be argued that the process of a group can be the source of especially self-expansive motivational stimuli, which, when they have been attained, are reflected in the epistemic and action process of the group.

The fourth proposition concerned the motivational link between the structure and the epistemic and action process of group. It was argued that humans have a contact incentive (McClelland, 1987). On the other hand, the group structure could be a major source of a self-defensive motivational stimulus (cf. Pyszczynski et al., 1997). Based on these arguments, it was stated that if a self-defensive motivational stimulus is attained during the existence of a group, the motivational state may arise, supporting the constructive epistemic and action process of the group.

The fifth proposition concerned the motivational link between the perceived performance of business and the dynamics of the epistemic and action process of the

group. It was argued that the motivation in terms of level of aspiration, and thus the epistemic behavior, is related to the perceived performance (Lewin et al., 1944). The level of aspiration rises following success and falls following failure. Based on this, it could be proposed that the more motivational stimulus is attained through perceptions concerning the performance of the business, the more likely a motivational state that further supports the constructive epistemic and action process is to arise.

The results of the study indicate that the motivation may greatly affect the dynamics of the epistemic and action process of the group. Cues for every proposed motivational mechanism were found in all four cases explored. It could be argued that the motivational drive that takes the entrepreneurship process further is derived from abstract or imaginary, highly subjective sources, while the definitors or determinators that make this process one of venture creation come from the objective or inter-subjective reality. The objective measures of business performance may not explain the motivation for the business process, even when they are highly cognitized.

1.3.4 Effects of team aspects on performance

The major research in the area of teams (incl. entrepreneurial, executive, and project teams) has concentrated on the examination of the individual characteristics of team structure and processes that could explain differences in team and firm success. Among the team structure characteristics that either directly or indirectly affect firm performance are team size (Cooper and Bruno, 1977; Doutriaux 1991; 1992; Eisenhardt and Schoonhoven, 1990), team heterogeneity (Eisenhardt and Schoonhoven, 1990; Wagner, Pfeffer and O'Reilly, 1984; Tsui and O'Reilly, 1989), team completeness (Roure and Keeley, 1989), previous joint work experience (Roure and Maidique, 1986; Roure and Keeley, 1989; Eisenhardt and Schoonhoven, 1990), previous start-up experience (Doutriaux 1991; 1992), and distribution of ownership (Kotkin, 1986; Timmons, 1979).

The literature on small groups and teams has emphasized the cognitive side of group behavior. It has been argued that in order to be successful, the members of groups/teams should have a shared understanding on their goals, mission, vision, values, processes, structure, and performance (see Hackman, 1990; Bird, 1989; Timmons, 1984; 1990; Watson et al., 1995). In contrast, Eisenhardt and Bourgeois (1988; Eisenhardt, 1989; 1990) argue that successful executive teams combined highly conflicting views within a team with fast decision-making.

Important team process characteristics include interpersonal relationships among team members (Watson et al., 1995; Bird, 1989; Kamm and Nurick, 1993; Kamm et al., 1990; Thurston 1986; Welles 1989), a common understanding about mission and goals (Ensley et al., 2003; Timmons 1984; 1990; Greenberg and Weinstein, 1992; Morris, 1989; Norman and Zawacki 1991; Matthes 1992; Mills 1967; Pavia and Berry 1991, Mohrman and Cohen, 1994; Hackman, 1990), a common understanding about the structure of the team (Bird, 1989; Rooney, 1987; Shapero, 1975), the creation of constructive conflict (Ensley et al., 2002; Eisenhardt and Bourgeois, 1988; Eisenhardt 1989), and the continuous evaluation of team performance (Hackman 1987; Scheider, Hastorf and Ellsworth, 1979).

Recently Chowdhury (2005) examined the influence of demographic diversity variables in terms of age, gender, and functional background and team process variables in terms of team-level cognitive comprehensiveness and team commitment on entrepreneurial team effectiveness. With field interview data from 174 entrepreneurs representing 79 entrepreneurial teams, their study suggests that demographic diversity is not important for entrepreneurial team effectiveness, whereas team process variables positively influence team effectiveness. The findings also suggest that diversity in gender, age, and functional background do not contribute to team-level cognitive, comprehensiveness, and team commitment.

Francis and Sandberg (2000) explored friendship within entrepreneurial teams with particular emphasis its association with the team's behavior and the performance of the venture. Building on a foundation in the literatures on friendship, entrepreneurial teams, and strategic decisions, they proposed 13 such relationships. Friendship facilitates the formation of management teams for new ventures, thereby improving their early performance. As the entrepreneurial team continues to function, friendship is conducive to decision-making processes that enhance the team's effectiveness in solving problems and ultimately improve the venture's performance. Under differing circumstances, friendships may exert either positive or negative influences on turnover within the entrepreneurial team and those influences may improve or impair the venture's performance. At the same time, behavior within the team or events in the venture's development may affect friendships within the team.

Marks et al. (2001) stated that much of the work in organizations is completed through teamwork: people working together to achieve something beyond the capabilities of individuals working alone. Success is not only a function of team members' talents and the available resources, but also of the processes team members use to interact with

each other to do the work. Understanding the processes that employees use to work together in teams will enable organizations to retool human resource systems and managers to select, train, develop, and reward personnel for effective teamwork.

Marks et al. (2001) examined the meaning of team process. They first defined team process in the context of a multiphase episodic framework related to goal accomplishment, arguing that teams are multitasking units that perform multiple processes simultaneously and sequentially to orchestrate goal-directed task-work. They then advanced a taxonomy of team process dimensions synthesized from previous research and theorizing that reflects our time-based conceptual framework.

One camp has argued that team leader behaviors, especially transformational or transactional leadership, positively impact the performance of subordinates and their units (Barling, Loughlin, and Kelloway, 2002; Waldman, Ramirez, House, and Puranam, 2001). The seminal work on transformational leadership, sometimes known as charismatic leadership, was done by House (1977) and Burns (1978). The basic notion is that transformational leaders can create the impression that they have the competence and vision needed to achieve success. Subordinates respond with enthusiasm and commitment to the team's objectives. Bass (1985; 1998) extended this work to a theory of transformational leadership whereby the leader can inspire and activate subordinates to perform and achieve goals beyond normal expectations.

Because teams are often cross-functional, transformational leaders can convince members, via charisma and by serving as coaches and mentors, to look beyond individual or functional orientations to the importance of a technological innovation or new product as a team outcome (Bass, 1985; Yukl, 2002). Burns (1978) and Bass (1985) have distinguished transformational leaders (who inspire through a vision) from transactional leaders (who use exchange relationships and monitoring). Bass (1985) postulated that leaders could be transformational, transactional, both, or neither in their leadership behavior.

Literature reviews of transformational leadership have generally found positive associations with follower motivations and self-rated performance (House and Aditya, 1997; Lowe, Kroeck, and Sivasubramaniam, 1996; Yukl, 2002). Relationships with separate-source measures of performance have had lower correlations. Recent research has continued the generally positive results for transformational leadership. Judge and Bono (2000) found that transformational leaders have higher effectiveness and more motivated and satisfied subordinates, and Waldman et al. (2001), in a longitudinal

study, found that charismatic CEO leaders had higher financial performance under conditions of uncertainty, but not under conditions of certainty.

Studies with military samples have found positive support for transformational leadership and subordinate performance in the Israeli army (Dvir et al., 2002), the United States Army (Bass, Avolio, Jung, and Berson, 2003), and the Singaporean army (Lim and Ployhart, 2004). Podsakoff, MacKensie, and Bommer (1996b) found that transformational leader behaviors were associated with subordinate job satisfaction and in-role performance, and Shin and Zhou (2003) studied Korean R&D employees and found that transformational leadership was positively related to subordinate creativity. In contrast to the literature supportive of transformational leadership, Shamir, Zakay, Breinin, and Popper (1998) found “only very partial support” (p. 387) for the effects of charismatic behaviors in performance ratings of superiors made by Israeli army company leaders. They noted that the subordinates were conscripts and the organization was hierarchical—factors that could limit the effectiveness of charismatic leadership. The primary component of transformational leadership has been charismatic leadership in which subordinates are inspired to perform beyond normal expectations via commitment to a vision and perception of competence provided by the leader (Bass, 1985; Pawar and Eastman, 1997; Yukl, 2002). In effect, subordinates have bought into a charismatic relationship with their leader that enables them to go beyond individual self-interests to focus on the team’s outcomes. Subordinates, moreover, are motivated by a higher level of self-efficacy to persist in reaching more challenging goals (Conger and Kanungo, 1987; Waldman et al., 2001).

Dionne, Yammarino, Atwater, and James (2002), moreover, have suggested that findings regarding substitutes for leadership may even be “merely a statistical artifact, resulting from common-source bias” (p. 454). Others, however, have maintained that substitutes for leadership, such as the ability of subordinates or task feedback, offer their own explanations of subordinate performance separate from that of leadership (Jermier and Kerr, 1997; Podsakoff, Mac-Kenzie, and Boomer, 1996a).

In his study Keller (2006), transformational leadership, initiating structure, and selected substitutes for leadership were studied as longitudinal predictors of performance in 118 research and development (R&D) project teams from 5 firms. As hypothesized, transformational leadership predicted 1-year-later technical quality, schedule performance, and cost performance and 5-year-later profitability and speed to market. All the performance measures were predicted by initiating structure. Both substitutes for subordinate ability and an intrinsically satisfying task predicted technical

quality and profitability and ability predicted speed to market. Moderator effects for type of R&D work were hypothesized and found; transformational leadership was a stronger predictor of technical quality in research projects, whereas initiating structure was a stronger predictor of technical quality in development projects.

Stewart and Barrick (2000) used data from 45 production teams (626 individuals) and their supervisors to test hypotheses related to team structure. For teams engaged primarily in conceptual tasks, interdependence exhibited a U-shaped relationship with team performance, whereas team self-leadership exhibited a positive, linear relationship with performance. For teams engaged primarily in behavioral tasks, they found a D-shaped relationship between interdependence and performance and a negative, linear relationship between team self-leadership and performance. Intra-team process mediation was found for relationships with interdependence, but not for relationships with team self-leadership. Overall, the findings support a model of team structure and illustrate how relationships between structural characteristics and a team's performance can be moderated by its tasks.

Mohammed et al. (2002) examined how the mix of ability, experience, and personality impacts three types of team performance: technical-administrative task performance, leadership task performance, and contextual performance. Relationships were tested using data collected from student management teams, which were required to plan and supervise the preparation and serving of meals in a cafeteria-style dining room patronized by university students, staff, and faculty. The results revealed that both team- and task-related composition variables predicted leadership and contextual performance. Specifically, grade point average was significantly related to technical-administrative task performance, and extraversion, neuroticism, and grade point average were related to leadership task performance. Agreeableness and restaurant experience predicted contextual performance. Surprisingly, conscientiousness did not account for significant variance in any of the three types of performance measured.

Klein et al. (2006) examined the leadership of extreme action teams—teams whose highly skilled members cooperate to perform urgent, unpredictable, interdependent, and highly consequential tasks while simultaneously coping with frequent changes in team composition and training of novice team members. Their qualitative investigation of the leadership of extreme action medical teams in an emergency trauma center revealed a hierarchical, de-individualized system of shared leadership. At the heart of this system is dynamic delegation: rapid and repeated delegation by senior leaders of the active leadership role to more junior leaders of the team and withdrawal of the active

leadership role from them. Their findings suggested that dynamic delegation enhances the ability of extreme action teams to perform reliably while also building the skills of their novice team members. They highlighted the contingencies that guide delegation of and withdrawal from active leadership roles by senior leaders as well as the values and structures that motivate and enable the shared, ongoing practice of dynamic delegation. Furthermore, they suggested that extreme action teams and other “improvisational” organizational units may achieve swift coordination and reliable performance by melding hierarchical and bureaucratic role-based structures with flexibility-enhancing processes. The insights emerging from their findings extend and challenge prior leadership theory and research, paving the way for further theory development and research on team leadership in dynamic settings.

1.3.5 The impact of context

Although a number of studies have confirmed the link between different aspects of team and team/firm outcomes, prior research contains many contradictory findings regarding whether a specific team aspect has a positive or a negative effect on firm performance (Keck, 1997). Recent research has suggested that the impact of specific team aspects on firm performance and growth depends substantially on the team/venturing context.

Johns (2006) argues that the impact of context on organizational behavior is not sufficiently recognized or appreciated by researchers. He states that previous treatments of the impact of context on organizational behavior, although helpful, have tended to be somewhat ad hoc or oriented toward a particular aspect of context. Johns defines context as the situational opportunities and constraints that affect the occurrence and meaning of organizational behavior as well as the functional relationships between variables, and proposes two levels of analysis for thinking about context—one grounded in journalistic practice and the other in classic social psychology.

According to Rousseau and Fried, “Contextualization entails linking observations to a set of relevant facts, events, or points of view that make possible research and theory that form part of a larger whole” (2001: 1). They assert that such contextualization can inform hypothesis development, site selection, measurement choice, data analysis and interpretation, and the reportage of research.

Cappelli and Sherer portray context as “the surroundings associated with phenomena which help to illuminate that [sic] phenomena, typically factors associated with units of

analysis above those expressly under investigation” (1991: 56). Thus, they describe organizational characteristics as providing a context for individual members and the external environment as providing a context for organizations. Mowday and Sutton characterize context as the “stimuli and phenomena that surround and thus exist in the environment external to the individual, most often at a different level of analysis” (1993: 198). They go on to describe context as consisting of constraints versus opportunities for behavior, proximal versus distal stimuli, and similarity versus dissimilarity among organizational members. Johns (2006) defines context as situational opportunities and constraints that affect the occurrence and meaning of organizational behavior as well as functional relationships between variables. Context can serve as a main effect or interact with personal variables such as disposition to affect organizational behavior.

Among the contextual factors that have been found to moderate the relationship between aspects of team and firm performance are environmental volatility (Keck, 1997), the characteristics of the industry (Keck, 1997), and the innovativeness and developmental phase of the firm (Carton and Amason, 2000). The theoretical explanation behind these results is based on the fact that the demands by firm management for knowledge and skills vary in different environmental and industry contexts (Lawrence and Lorch, 1969) and organizational phases (Grainer, 1972). This causes the effects of aspects of team on firm performance to vary greatly between different contexts.

2. Aims and structure of the study

2.1 Research aim and objectives

Although a number of studies have confirmed that successful ventures are often established and developed by teams rather than by a single person, especially in high velocity conditions (Cooper, 1973; Baty, 1974; Bird, 1989; Goslin and Barge, 1986; Rich and Gumpert, 1985; Cooper and Bruno, 1977; Teach, Tarpley and Schwartz, 1986; Utterbach, Meyer, Roberts and Reitherger, 1988; Doutriaux, 1992; Keck, 1997; Chowdhury, 2005), little is known about the mechanisms and constructs underlying the link between teams and growth of the firm, this study seeks to enhance our understanding of that link. The research task is to analytically conceptualize and explore the relationship and the conditions of emergence and existence of the relationship between aspects of team and firm performance and growth. The study is primarily concerned with understanding the circumstances of team and business formation in growth businesses. This study focuses on the entrepreneurial process and on the behavior of individuals in that process. The study concentrates on young, technology-based firms.

The study consists of four essays, each of which makes an additional contribution to the literature on the link between aspects of top management teams and firm performance and growth. The explanation of the link is taken to the multiple levels of analysis from the individual team member to team and organizations levels, and to the industry, state, and global market levels. The global market level was included in the analysis since the emergence, existence, and development of the relationships between aspects of team and firm performance and growth in the sample/populations studied were found to be strongly dependent on competitive conditions and competitiveness in the international/global markets.

From an individual's perspective, starting up a new, technology-based firm is a complex and fragile process where internal and external factors converge and collectively affect the outcome. On the one hand, the unit of analysis is an individual and a team and on the other the emerging organization as part of the emergence of the competitive environment/condition. It is expected that both internal and external factors will play an important role in this decision-making process and hence have an impact on the outcome. This study is focused on both the internal and the external factors that are dependent on the surrounding environment.

This study takes the perspective of young Finnish technology-based firms. This focus was chosen because of the increased attention focused on technology-based entrepreneurship in Finland.

The purpose of this study is to provide new knowledge concerning the relationship between the team and aspects of team and firm performance and growth. This will serve two purposes: it will contribute to the theory of entrepreneurship and growth and offer practical implications for entrepreneurs, business consultants, and policy-makers for promoting growth ventures. The theoretical contribution will be the integration of the resource perspective and individual characteristics with the team process and the process of identification and exploitation of the business as part of the emergence of markets and the competitive environment/condition.

The results of this study will contribute to the ongoing discussion concerning high growth, high technology entrepreneurship, and the various means of promoting it. The results will also contribute to our understanding of the dynamics involved in the decision-making process of an individual or a group of individuals concerning technology-based entrepreneurship. The practical implications of this study aim to provide knowledge and means for entrepreneurial practice and for designing policies that promote technology-based entrepreneurship.

2.2 Key definitions of the study

In order to provide a basis for the subsequent discussion, an operational definition of entrepreneurship, entrepreneurial behavior, entrepreneur, entrepreneurial firm, entrepreneurial phase, entrepreneurship process, entrepreneurial top management team, team aspects, young technology-based firm, and firm/organizational performance and growth are required. The position of this dissertation reflects one of the more widely adopted definitions:

Entrepreneurship is defined as the creation of value by making new combinations (of means of production) causing discontinuity (Schumpeter, 1934) or as the perception of profit opportunities and initiating of action to fill currently unsatisfied needs or to improve inefficiencies (causing equilibrium) (Kirzner, 1973).

Entrepreneurial behavior is opportunistic, value-driven, value-adding, risk-accepting, creative activity where ideas take the form of organizational birth, growth, or transformation (Bird, 1989).

An entrepreneur is a person who establishes an organization (Gartner, 1988) in order to develop new innovative products or/and discovers unexploited market opportunities.

An entrepreneurial firm is a legally independent business (Peterson et al., 1986), which is at least partially managed by someone of the owners.

The entrepreneurial phase continues until the firm goes public.

The entrepreneurship process involves all the functions, activities, and actions associated with the development of innovative new products or perceiving of opportunities and the creation of organization to pursue them (Bygrave, 1989).

An entrepreneurial team is commonly defined as a group of (two or more) individuals, who jointly establish an organization and who have financial interest in it. These individuals are present during the pre-start-up phase of the firm. This study looks at entrepreneurial teams a wider perspective. It sets out to examine entrepreneurial top management teams consisting of individuals who join the team during the entrepreneurial phase of firm. Our view involves team formation in both the pre-start up stage of the firm and the start-up and growth phase. For the purposes of this study, our definition of *the entrepreneurial top management team* is the group of individuals who are the most responsible for the establishment and management of the business.

Firm/Organizational performance and growth. Two measures were included: the percentage increase or decrease in sales and Return on assets (ROA).

Team aspects are the theoretically and conceptually relevant and generalizable characteristics of teams which may have an effect on firm/organization outcomes and performance.

Young technology-based firm. These are companies under 20 years old at the time of study; they represent high technology sectors. The study sample presented the companies founded in between 1983-1995 in two industries: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722).

3 Theoretical framework

This chapter draws on a number of areas within the field of entrepreneurship, management, and organizations research and seeks to provide a broad framework for understanding the link between team aspects and firm performance and growth. The areas of teams, new venture creation, small business development and growth, and especially institutional theory provide the underpinning for this study and the basis for the contributions made to the field of entrepreneurship, venturing and small business growth research.

3.1 Team aspects

Keck (1997) identified three main streams of research to approach the relationship between management teams and performance. The first stream specifies processes within teams, for example (1) the social psychology tradition of focusing upon social integration and communication as key predictors of group performance and (2) the group theory of defining team processes by focusing on task and maintenance functions.

The second stream links team structure to team process. Smith et al. (1994) suggest that the relationship between team structure, team process, and firm performance may be much more complex than originally modeled or assumed in previous work. According to Smith et al. (1994), there are three competing models of the effects of team structure on firm performance: (1) the demography model based on the direct effect of team resources/structure on performance, (2) the process model based on the direct effect of team process above and beyond the direct effect of team resources/structure, and (3) the model of team processes as intervening variables.

The third stream relates top management team structure to environmental conditions such as uncertainty (Bantel, 1993), turbulence (Heleblan and Finkelstein, 1993; Keck, 1997), munificence (Wiersema and Bantel, 1993), and high velocity (Eisenhardt and Schoonhoven, 1990).

The present study builds on all of these three streams of research. In addition to the effect of team demography on performance, we also seek to examine that of the group's maintenance and task leadership processes (Hackman, 1987). Our aim is to filter out the direct impact of various aspects in the complex relationship between team and

performance. In addition, we seek to control for the effects of environmental conditions on the link by restricting the study to young technology-based companies in high-velocity conditions. Drawing on previous studies, five alternative models are proposed to capture the management team's effects on performance and growth. The models concern the direct (independent) effects of group resources, structure, maintenance process, task behavior, and the effects of the personal integration of team members into the task process.

3.2 Conditions of organization and growth

3.2.1 General theories of organization and growth

There are several complementary and overlapping views that explain the emergence, survival, and growth of organizations in the market (Van de Ven and Astley, 1982). Economists typically argue that the survival and growth of new firms depends on the efficiency of their production processes and their organizational design (Williamson, 1985). New firms, which are established below the minimum scale in terms of efficiency, must be able to achieve a certain level of efficiency of production and organizational process in order to survive. Sociologists (e.g., Granovetter, 1985) argue that the success of new firms depends not only on economic efficiency, but also on institutional approval (Hannan and Freeman, 1984). In particular, they argue that firm survival depends on the firm's ability to establish cognitive and socio-political legitimacy (Aldrich and Fiol, 1994). Another approach suggests that firm effectiveness rests on the ability to control critical and scarce resources through favorable transactions with exchange partners. Thus, ventures should seek either to decrease their dependence on the owners of these resources or to increase others' dependence on them (Pfeffer and Salancik, 1978).

Walsh (1996) argued that these three theoretical perspectives shifted the focus away from individual managers as a locus of firm performance. Indeed some writers argued that managers are epiphenomenal (Lieberson and O'Connor, 1972). Child (1972), however, argued that strategic choice process does matter in the calculus of firm performance. The strategic choice paradigm asserts that an organization's leaders can both willfully design their organization and enter into negotiations with environmental actors in order to alter that environment to suit the firm's needs (Walsh, 1995). Thus, the positioning of an organization within its environment is considered to be the result of purposeful choice (Child, 1972). Spender (1996) argues that since the origin of all tangible resources lies outside the firm, it follows that competitive advantage is more likely to arise from the intangible firm-specific knowledge which enables it to add value

to the incoming factors of production in a relatively unique manner. Thus, it is the firm's knowledge, and its ability of generate knowledge, that lies at the core of the theory of the firm (Spender, 1996). Common to all the different views of survival and growth of firms is that particular combination of knowledge and experience (and possible complementation of it during the process) is needed that allows the legitimacy and efficiency of the process. From the point of view of the successful business and team, this condition has to take place. This also means that there is a need for collective shared behavior towards the identification and organization of particular business opportunity.

3.2.2 Conditions for growth opportunity

Continuous change, idiosyncratic knowledge, and knowledge asymmetry

Penrose (1959: 85) argued that the identification and exploitation of growth opportunities is inextricably linked to managers' subjective assessment of their productive opportunity set. Venkataraman (1997) states that it is necessary not only to determine the effect of knowledge on performance and growth of the firm, but to understand how opportunities to bring into existence "future" goods and services are discovered, created, and exploited, by whom and with what consequences. This focuses our attention on the process of identification and exploitation of opportunities and formation of business and team as part of it. Venkataraman (1997) also states that it is the question of continuous change in society and the result of this natural process is both a continuous supply of lucrative opportunities to enhance personal satisfaction and wealth and a continuous supply of enterprising individuals seeking such opportunities. This calls for the system and society level of analysis, in addition to individual, group, and organization levels of analysis.

In his seminal paper entitled "The Use of Knowledge in Society," Hayek (1945) pointed out that the central feature of a market economy is the partitioning of knowledge among individuals, such that no two individuals share the same knowledge or information about the economy. Hayek specifically referred to day-to-day knowledge (and not necessarily to scientific knowledge), such as that associated with particular occupations. In other words, knowledge about resources that are lying fallow, a better way of doing a particular job, a key resource that is becoming scarce, the discovery of a breakthrough in the laboratory that leads to a new technique, a method of production, or technology, or the existence of a critical need in a particular segment of society and so forth. The key point is that this knowledge is diffused in the

economy and is not a “given” or at everyone’s disposal.¹ As a result, only a few people know about a particular scarcity, a new invention, or a particular resource lying fallow, or not being put to the best use. This knowledge is typically idiosyncratic because it is acquired through each individual’s own circumstances including occupation, on-the-job routines, social relationships, and daily life. It is this particular knowledge, obtained in a particular “knowledge corridor,” that leads to profit-making “insight” (Kirzner, 1985; Nelson and Winter, 1982).

The dispersion of information among different economic agents who do not have access to the same observations, interpretations, or experiences (Arrow, 1974) has two fundamental implications for entrepreneurship and the firm growth process: first; opportunities for discovering or creating goods and services in the future exist directly as a result of the nature of the dispersion of information. It is this dispersion that created the opportunity in the first place. Second, the very same dispersion presents hurdles for the profitable exploitation of the opportunity as there is a failure by the market to create demand for the future goods or services. It is therefore necessary to first understand how opportunities for the creation of new goods and services arise in a market economy, and second, it is necessary to understand how and in what ways individual differences determine whether, and how, hurdles in the process of discovering, creating, and exploiting opportunities are overcome.

On the other hand, an important issue regarding the knowledge of growth is the origin of opportunities to create future goods and services (Venkataraman, 1997). Drucker (1985) has identified three categories of opportunities. The first is inefficiencies within existing markets due either to information asymmetries among market participants or to the limitations in technology for satisfying certain known but unfulfilled market needs. The second is the emergence of significant changes in social, political, demographic, and economic forces that are largely beyond the control of individual agents. The third source is inventions and discoveries that produce new knowledge.

Opportunities have to be discovered and exploited

It is one thing for opportunities to exist, but an entirely different matter for them to be discovered and exploited (Venkataraman, 1997). Opportunities rarely present themselves in neat packages. They almost always have to be discovered and

¹ Note the difference between socialist vs. capitalist or collectivist vs. individualist societies related to how the scarcity of resources and knowledge are accepted and how an individual is expected to create and utilize resources and knowledge.

packaged. Thus, the nexus of opportunity and enterprising individual or individuals/teams is critical to understanding entrepreneurship and growth. Venkataraman (1997) states that at the core of opportunity recognition is the belief that people are different and these differences matter. A related question is what separates those who engage in individual enterprise from those who do not. Or in more operational terms, what triggers the search for and exploitation of opportunities in some, but not in others. Although there has been increasing research on traits that propel certain people to pursue actions that can be called entrepreneurial the findings of this research over the past 30 years have at best been inconclusive (see Shaver and Scott, 1991, for a good review). Instead, Venkataraman (1997:123) draws attention to the following areas: knowledge and information differences, cognitive differences and behavioral differences.

The role of specific knowledge and “knowledge corridors” in motivating the search for profitable opportunities has received little attention since Hayek’s (1945) observation about the dispersion of information in society. Venkataraman (1997) argues that this topic is critical for developing an understanding of what triggers the search for and exploitation of opportunities by some individuals but not others. As the possession of useful knowledge varies among individuals this variable strongly influences the search for an opportunity and the decision to exploit it. Furthermore, this possession of knowledge also influences the relative success of the exploitation process.

Specific knowledge by itself may only be a sufficient condition for the exercise of successful enterprise and growth. The ability to make the connection between specific knowledge and a commercial opportunity requires a set of skills, aptitudes, insights and circumstances that is neither uniformly nor widely distributed. Thus, two people with the same knowledge may put it to very different uses. It is one thing to have an insight, but an entirely different matter to profit from it. The incentive, capability, and specific behaviors needed to profit from useful knowledge or insights vary among individuals, and these differences matter in explaining entrepreneurship.

Favorable cognitive conditions, incentives to incorporate and creative processes

As Spencer (1996) stated it is the firm’s knowledge, and its ability of generate knowledge that lies at the core of the theory of the firm (i.e., formation and development of business and team), a few scholars have investigated the process by which knowledge is converted into commercial ventures and growth. This research suggests

that three factors play an important role in this process. The first factor consists of the cognitive conditions (e.g. Shaver and Scott, 1991). The second is the incentive to incorporate (e.g. Amit et al., 1995, who emphasize low opportunity cost or lack of alternatives as strong incentives; as contrasted with Schumpeter 1976 and Kirzner 1973, who both emphasize the potential size of the profits to be made as a powerful incentive). The third factor is made up of the differences in the creative process (e.g. Schumpeter's creativity 1976; Kirzner's alertness 1973; or Shackle's imagination 1982). Venkataraman (1997) argues that while these variables are usually treated as independent of each other, he suspects that they will have greater explanatory power if they are treated as interacting variables and the endogeneity is accounted for. Cognitive conditions, incentives, and creative processing vary among individuals and societies and these differences matter. These variables strongly influence the search for and exploitation of opportunity, as well as the success of the exploitation process.

The identification, recognition, and exploitation of a growth opportunity typically involve an element of downside risk. By definition, entrepreneurship and firm growth require an investment (time, effort, and money) today without certainty about the distribution of the returns tomorrow (Venkataraman, 1997). There is a fundamental uncertainty that cannot be insured against or diversified away (Knight, 1921). Indeed, it is this very uncertainty that provides the opportunity for profit in the first place (Knight, 1921; Rumelt, 1987). Individuals vary in their perception of downside risk and aversion to them, as well as in their aptitudes and capacities to deal with and manage them. This variance may have a significant, but systematic, impact on the decisions.

Legitimacy and trust

While idiosyncratic insights and the relatively rare ability to convert knowledge into commercial profit lead to successful enterprise, these same qualities also pose problems for entrepreneurs (Venkataraman, 1997). In a typical scenario, an entrepreneur or team does not own or control all the resources required to develop the market and establish the value-chain infrastructure and only then eventually profit from his or her particular knowledge. Most of these required resources have to come from other people and institutions. Thus, the entrepreneur/team has to assemble, organize, and develop the market and build the value-chain infrastructure before potential profits can be realized and conjectures proven to be "insights." The process of creating products and markets implies that much of the information required by potential stakeholders – for example technology, price, quantity, tastes,

supplier networks, distributor networks, and strategy – is not reliably available. The relevant information can only exist once the market has been created (Arrow, 1974). Thus potential stakeholders have to rely on the entrepreneur for information, but without the benefit of the entrepreneurs' special "insights." In almost every project entrepreneurs have had more information about the project than any of the other parties involved. Because of this information asymmetry, neither buyers nor suppliers may be willing to make the necessary investments in specialized assets or formal cooperative arrangements to develop a business and, as a result, the market process may fail. To overcome this so-called adverse selection problem (Akerlof, 1970), extra costs for revealing credible information may be imposed by writing contingencies into contracts and in the extreme case by reducing the number of quality entrepreneurs and potential resource suppliers in the market.

Organization theorists have always argued that the economist's view of the world is a highly under-socialized one (Granovetter, 1985) that does account for the relations, trust, and support networks built up over time by entrepreneurs or teams. In fact, there is increasing evidence showing that individuals employ an array of different forms of social capital in the pursuit of a venture, especially in the early stages of a new firm (e.g. Aldrich and Fiol, 1994; Larson, 1992). Cooperative relationships based on trust and prior experience, or more broadly, on social capital alleviate the adverse selection and moral hazard problems which economists allude to. The general approach in the entrepreneurship literature has been that trust is a "lubricant" that facilitates cooperative exchange, especially under conditions of uncertainty, information asymmetry, and unobservable actions (Dasgupta, 1988). It enables entrepreneurs to overcome the lack of legitimacy (Stinchcombe, 1965) associated with new ventures and serves as a flexible and adaptive governance structure. Most of the literature in the entrepreneurship field implicitly treats the development of trust and relationships as costless and uniformly useful in all contexts. However, Venkataraman (1997) maintains that the development of trust and trusting relationships involves the expenditure of scarce resources (time, psychological and social energy, and perhaps even economic resources). The cost must therefore be brought into the equation. The question may be posed as follows: "Under what conditions can we expect greater returns from trustworthy behavior on the part of entrepreneurs?" In order to answer this question one must determine what trustworthy behavior means in this context.

Shared views of the world

Because of their costs, returns on trust and trustworthy behavior will be higher in some contexts (inefficient market conditions with weak institutional regimes to ensure honest behavior) than in others (efficient markets with strong institutional regimes that ensure honest behavior/the relevance of profit seeking behavior/intellectual property rights etc.) (Venkataraman, 1997). Economic theory suggests that in situations where information is rich and widely available the scope for entrepreneurial profits is low (see Kirzner, 1985), as are the opportunities for cheating. These market conditions, in conjunction with a strong institutional regime that rewards honest opportunity and profit-seeking behavior and punishes cheaters (e.g., enforceable contracts, Securities and Exchange Commission regulations, etc.), results in an environment where individual trustworthiness is less of a differentiating attribute in securing favorable treatment by resource suppliers. In this context it may not be economically justifiable for someone to invest scarce resources to build interpersonal relations. This means that in the case of strong shared institutions that guide the way in which society is reproduced, it may not be “economically” justifiable for someone to invest scarce resources to build interpersonal relations or to access additional information to strengthen one’s position in the system. In short, information and institutional regimes that ensure “good” behavior are efficient substitutes for trust at the individual level.

It is important to note, however, that trust is based on a shared understanding of the goals and means and the environment, and also what the term trust itself means for participants in that world. Hence, the explosion of opportunities is very much related to the shared worldview of the entrepreneurs/team and main stakeholders concerning creation of a particular business and market.

Types of entrepreneurs, investors and early adopters

According to Venkataraman (1997), entrepreneurs and teams vary in their ability to deal creatively with risk. Some may creatively package risk to make it insurable, while others may have the ability to creatively reduce the residual risk that cannot be insured or shifted to outside parties. He argues that these differences in ability may have a significant impact on the success of a start-up, as well as on the allocation of risk among stakeholders.

Venkataraman (1997) highlights two important issues concerning the relationship between entrepreneurs and resource suppliers. The first concerns the financial investors, while the second concerns customers. Investors occupy a special place in entrepreneurship. Cash from investors, in the form of either debt or equity, is usually either converted into the non-liquid assets required for the running of the business or used for operating expenses. Once the cash has been spent or invested in non-liquid assets, investors are locked into the deal. Even if they wish to exit the relationship, following a crisis for example, they are stuck unless the start-up has enough cash flow to accommodate such exits, a situation that is very rare. Thus investors bear a significant residual risk. Even so, all stakeholders in a new enterprise hold some residual risk due to the fact that they have specialized assets dedicated to the new enterprise that cannot be applied to any other endeavor. However, investors arguably hold more of the residual risk than other stakeholders.

Commenting on the economic system or society's various structures and dynamics for successful economic behavior, Venkataraman (1997) discusses why both business angels and venture capitalists exist in the economy. Because they are portfolio investors, venture capitalists look for projects with greater uncertainty but potentially higher returns. In hyper-uncertain environments, the asymmetry of information between entrepreneur and investor becomes meaningless. Due to the uncertainty the entrepreneur's insights and knowledge cannot really hurt the investor. Furthermore, by setting very high hurdle rates, venture capitalists only allow entrepreneurs with high-risk projects to bid for their capital. This means that due to the inherent uncertainty of this category of project, the entrepreneur's inside information cannot hurt the venture capitalist. The venture capitalist is able to separate serious entrepreneurs from non-serious entrepreneurs by the simple mechanism of having contingent contracts that specify that the second round of financing is contingent upon first round performance, or in other words, staged capital commitment. The result is that only serious entrepreneurs who have high-risk projects with significant upside potential will have the incentive to seek out venture capitalists.

Business angels in contrast add a different kind of value to the economy. Since they are not portfolio investors, their capacity for undertaking high-risk projects is limited compared with that of venture capitalists. As a result, they tend to become involved in less uncertain projects. But when this happens both the information asymmetry and the protection of the investment and post-investment become serious problems. Hence, what entrepreneurs know about a project or themselves, but an investor does not, can hurt the latter. Thus, inside information becomes an important criterion in

selecting projects. To overcome this problem, business angels often rely on social capital. Business angels prefer entrepreneurs with whom they already have a trusting relationship or who are recommended by a trusted source. The business angel solves both the information asymmetry problem and the moral hazard problem by investing only with people they know and trust, and only in amounts that are small fractions of their total net worth (Venkataraman, 1997).

In terms of opportunity recognition and growth conditions, the key groups of society are also those who make up the early or first customers of new, especially innovative ventures. They appreciate newness and seek the differentiation, identity, and competitiveness, which drive early adopters.

Organization mode optimizers

According to Venkataraman (1997), another critical decision for growth entrepreneurs and teams concerns the question of how to “organize” relationships with resource suppliers in order to foster the development and execution of a new business. Stated differently, when there are several possible institutional arrangements (and institutional realities) for creating future products or services (such as a new firm, a franchise or license arrangement, a joint venture, or a simple contractual agreement), why do entrepreneurs (either independent or corporate) choose a particular mode? And what are the consequences of this choice for the distribution of risks and rewards among the various stakeholders?

Several current theories deal with choice of mode of organization. The theories fall into three broad categories: one emphasizes cost (transaction cost and agency costs), another emphasizes speed and market power (strategic behavior), and a third emphasizes appropriability (resources and capabilities view of the firm). While each of the above groups of theories focuses on a single factor and develops it to its logical conclusion, each ignores the other two issues. In reality, this choice is often a trade-off between costs, speed, and protecting knowledge, especially as many of these factors often conflict with each other (Venkataraman, 1997). The optimal structures of an organization thus depend as much on context as on any one particular factor, for example, transaction costs or appropriability. Entrepreneurs have to balance transaction costs with both speed and the protection of core knowledge in order to gain an advantage in the market place. What is particularly relevant knowledge and behavior in practice calls for deeper conceptualization and analysis of the accumulated physical and institutional context.

3.3 Conditions for meaning and action

Entrepreneurship and the formation and development of the entrepreneurial team contributing it are easy in theory (i.e., how a new opportunity is identified and created; who become involved, and what are their interests and roles). It is more complicated in practice once the behavior, thought, meanings, organization, relationships, and performance are embedded and bound in the particular accumulated and accumulating social and institutional conditions and order (c.f., Granovetter, 1985). The accumulated and accumulating social/institutional conditions of entrepreneurship play a central role in empowering and constraining the formation and development of teams and businesses and in the emergence and existence of the link between team aspects and firm performance and growth (i.e., whether there are shared frameworks of reproduction and incentives and motivation to do so). One cannot change the entire accumulated social conditions in which one is embedded nor change one's position and meaning within those concrete conditions at once. From the perspective of this study, it is important not only to review the conditions needed for entrepreneurship, but also to understand the actual emergence and development (reproduction) of the conditions needed for an organization, teams, growth, and the relationships between aspects of the growth of teams and organizations to emerge and exist. As the institutional theory argues that no phenomena, organization, performance, and relationships emerge and exist in a vacuum, but are always related to some accumulated institutional/physical developmental condition and setting (Scott, 2001), this chapter seeks to provide a framework for understanding the emergence and development of those conditions and the positions needed within them. The framework help us to identify and understand the development and diffusion of institutions and meanings and thus the concrete shared behavior, thought, and organization that must take place in order for the entrepreneurship, top teams, and their demography and processes – all of which contribute to firm performance – to emerge and reproduce.

We assume that although human behavior is highly dependent on the natural physical world; systems of meaning shaping the intensity and direction of human behavior are negotiated by people in the course of social interaction. Based on this assumption, entrepreneurship can be defined as the negotiation of new systems of meaning in the course of social interaction within the defined framework of values (cf. Schumpeter, 1934). Psychologists, on the other hand, provide convincing evidence that people are motivated to obtain (among other things) positive evaluations of themselves and the groups to which they belong, favorable public

images, consistency among their cognitions, and benign beliefs about the world in which they live (e.g. that the world is just). Moreover, there is much literature that documents the many ways in which these needs influence social cognition and interpersonal behavior (Pyszczynski, Greenberg and Solomon, 1997).

Since the effects of the phenomena of entrepreneurship and teams on performance do not occur in a vacuum but are related to particular institutional/physical conditions and development, it is important from the perspective of this study to identify to which concrete institutional/physical development they are related. Why have they become important and meaningful? Are they still important?

Drawing on the institutional theory and analysis, we argue that two conditions have to be met for the emergence and existence of a strong positive relationship between aspects of team and firm performance and growth in the sample (or case) studied. Those conditions are the following:

- 1) There must have been an opportunity for particular institutional/physical development for the meaningfulness and emergence and existence of the phenomena of top teams and firm performance and growth to emerge and reproduce. AND
- 2) There must have been a strong position within this development to ensure a high level of performance in this phenomenon.

3.3.1 Institutional development

Institutional theory argues that no phenomenon, organization nor relationship emerges and exists in a vacuum; instead, they are always related to some accumulated institutional/physical developmental condition and setting (Scott, 2001). From the theoretical perspective of this study there must have been (an opportunity for) particular institutions and institutional and physical development to allow this phenomenon to emerge and exist and to become meaningful, institutionalize, and diffuse. By theorizing and identifying those conditions we are able to increase our understanding of the more fine-grained conditions of the emergence, existence, meaningfulness and diffusion of the phenomena, organizations and relationships studied in this dissertation.

Now combining the issues of new business creation and growth (e.g. Venkataraman, 1997; Shane and Venkataraman 2000) and the process of institutionalization, we argue that in order for the phenomenon of a positive relationship between aspects of

team and firm performance and growth to emerge and exist, there must have been (an opportunity for) particular institutional and physical development intending, accepting, and making the following phenomena possible and meaningful:

- a) the continuous identification of opportunities for new products, services, and business organizations,
- b) the organization of business organizations and entrepreneurial top management teams with particular demography, structures, and processes strongly supporting business organization,
- c) the strong development and growth and selection and dynamics of business organizations and
- d) the emergence and existence of the relationship between particular aspects of top team demography, structures, and processes and firm performance and growth.

3.3.2 Position within institutional development and contribution to it

On the other hand, institutional analysis argues that no performance related to particular phenomena, organizations, and relationships emerges and exists in a vacuum, but is instead related to the position/relationship/contribution of individuals, groups of individuals, organizations, fields, regions, societies with the institutions and institutional development that create and recreate/reproduce the phenomena. From the theoretical perspective, there must have been a position of a sample/population on and contribution to those institutions and institutional development that create and recreate/reproduce the phenomena needed to ensure a high level of performance by the individuals, groups of individuals, organizations, regions, fields, and societies studied. By theorizing and identifying the position and contribution of the individuals, groups of individuals, organizations, fields, and societies to those institutions and institutional development we are able to increase our understanding of the more fine-grained conditions of performance related to the phenomena studied.

Drawing on institutional theory and analysis, we argue that in order to perform on a high level in terms of the emergence and existence of a positive relationship between team aspects and firm performance and growth, there must have been a strong position of a sample/population within and contribution to the institutional and physical development intending, accepting and enabling the following phenomena:

- a) the continuous identification of opportunities for new products, services and business organizations,
- b) the organization of business organizations and entrepreneurial top management teams with a particular demography, structure and processes strongly supporting business organization,
- c) the strong development and growth and selection and dynamics of business organizations and
- d) the emergence and existence of a relationship between particular aspects of top team demography, structure and process and firm performance.

Vice versa, a moderate or a weak position of a sample/population on and/or contribution to this institutional/physical development/development of institutions is related to a moderate or weak performance in terms of the emergence and existence of the relationship between team aspects and firm performance and growth.

Drawing on institutional theory and analysis, we argue that by theorizing and studying whether there is a general condition for the relationship to exist and what is the position of sample (or case studied) within that condition, we are able to increase our understanding of the relationship between top team aspect and firm performance and growth.

This study argues that the issue of the effect of top teams on performance and growth cannot be taken apart from the social context of meaning. In other words, to talk about teams and their importance for firm performance and growth is meaningless if there is no institutional condition for it and if one does not have meaningfulness/a meaningful position in that context.

The following chapter provides a framework for understanding institutions and the emergence and development of institutional conditions and settings and thus also a framework in which organization, teaming, performance and relationships to emerge and exists.

3.4 Institutional theory – providing a framework for understanding the conditions of meaning and action

Scott (2001) states that social action is always grounded in social contexts that specify valued ends and appropriate means; action acquires its very reasonableness from taking into account these social rules and guidelines for behavior. He adds that although the capability of managers and teams to achieve firm outcomes and performance has been emphasized, rational managerial behavior always takes place (and is carried/empowered/constrained) within the particular accumulated institutional environments. Scott concludes that institutional rules set the limits within which strategic behavior occurs. Moreover, the shared institutional framework provides the meaning for particular strategic acts and organization. No particular strategic act and organization take place if there is no shared institutional framework with incentives to do so. Specific accumulated, shared institutional contexts and settings are needed for a particular behavior, organization, development, and performance to exist. From the perspective of this study, it is now important to provide an overall theoretical framework to explain and analyze institutions and institutional development. The framework will help us to identify and understand the development and diffusion of institutions and meanings and thus the concrete shared behavior, thought, and organization that are necessary for the emergence and reproduction of top teams and their demography and the processes contributing to firm performance and growth.

While the new institutional economics (e.g. Williamson, 1975) emphasizes the role of management in making choices between alternative generic forms of governance - markets, hybrids, and hierarchies, and the strategists (e.g., Child, 1972) emphasize the will and capability of managers to both design their organization and enter into negotiations with environmental actors in order to alter that environment, the institutionalists emphasize the accumulating, often at least partially unconscious, taken-for-granted conditions/environment in which specific “economic” behaviors, decisions and organization, developments and relationships take place and are carried forward (Scott, 2001).

Every organization is a subsystem of “a wider social system which is the source of the ‘meaning,’ legitimization, or higher-level support which makes implementation of the organization’s goals possible” (Parsons, 1960:63-63). The capabilities and preferences that are the very nature of the actors cannot be understood except as part

of some larger institutional framework (Krasner 1988: 72). Peter Berger, John Meyer and Lynne Zucker stress the centrality of cultural-cognitive elements of institutions: the shared conceptions that constitute the nature of social reality and the frames through which meaning is made. Institutions impose restrictions by defining legal, moral, and cultural boundaries that distinguish legitimate from illegitimate activities. But it is essential to recognize that institutions also support and empower activities and actors. Institutions provide guidelines and resources for acting as well as prohibitions and constraints on action (in Scott 2001:50).

Institutions can be formal or informal. Scott (2001) categorized formal and informal institutions into normative, regulatory, and cognitive groupings. The most formal are the regulatory institutions. These represent the standards provided by laws and other sanctions. Normative institutions tend to be less formal, and they define the roles or actions that are expected of individuals. Normative institutions often manifest themselves through accepted authority systems such as accounting or medical professional societies. Sometimes they are codified; sometimes they are the understood practices of a profession or work function. Finally, cultural-cognitive institutions represent the most informal, taken-for-granted rules and beliefs that are established among individuals through social interactions among various participants; they guide behavior. Cultural-cognitive and less formal normative institutions often propagate and influence a society through a community's culture (Jepperson, 1991; Scott, 2001).

Culturally-embedded values, norms, traditions, conventions, customs, sanctions, taboos, and codes of conduct form the informal institutional constraints and incentives that shape human and organizational behavior. Informal institutions provide human actors with a taken-for-granted mental framework that extends, elaborates, modifies, and complements the formal institutional rules of the society (North, 1990). Since informal institutions evolve gradually along with national cultures, they provide the continuity and path-dependence that connects a society's present to its history as well as to its future. Thus, informal institutions tend to be more durable than formal institutions, which may be replaced overnight for example by new legislation and regulation, wars, and revolution (North, 1990). Since informal institutions are deeply-embedded in a society's cultural heritage it is difficult to understand them from the outside.

Formal institutions consist of political, juridical, and economic rules that complement and increase the effectiveness of informal institutions. The hierarchy of

formal institutions extends from constitutions to statutes and common laws, and further to government regulation, collective labor market agreements, and individual contracts. Thus, changes in formal institutions may originate from many different sources: legislatures and governments, regulatory agencies, collective bargaining, and contracting organizations (North, 1990).

Although rules, norms, and cultural beliefs are central ingredients of institutions, the concept must also encompass associated behavior and material resources. Although an institutional perspective gives heightened attention to the symbolic aspects of social life, we must also attend to the activities that produce and reproduce them. Rules, norms, and meanings arise in interaction, and they are preserved and modified by human behavior. The Giddens (1979; 1984) formulation usefully stresses the “duality” of social structures, encompassing both idealist and material features of social life and highlighting their interdependence. Although institutions represent continuity and persistence, they exist only to the extent that they are carried forward by individuals: “Institutions exist in the integrated and standardized behavior of individuals” (Hughes 1939: 319).

As Parsons has noted, shared informal institutions can be found at all levels of the economic system (Parsons, 1960): organizational sub-units (working methods), firms (organizational routines and standards), corporations (corporate culture), industrial sectors (industry “recipes”), and nations (national culture, its customs and behavioral norms). Scott (2001) adds that institutions can exist even at the world system levels. One of the most wide-ranging and well-known studies of this type at the world-system level is the historical (process) account provided by North and Thomas (1973) of “the rise of the Western world.” From the point of this study, the issue of business and related phenomena can be found all over the world. This reflects institutionalized phenomena at the world system level.

Although it is conventional among macro scholars to characterize such systems as operating in the organization’s environment (see Zucker, 1987), it is important to recognize that these systems are carried in the minds of individuals. They exist not only as “widely held beliefs” in the wider environment or as laws that organizational actors need to take into account, but also as ideas or values in the heads of organizational actors. Scott (2001) states that indeed, attending to this connection is one of the vital ways in which institutional analysis can help to link the work of micro and macro organizational scholars. Tiny changes in what individuals widely accept and aim for can be identified in the great differences that exist in organization and

development on the macro level. On the other hand, those developed, institutionalized macro conditions substantially shape what is appropriate, acceptable, and possible for a single individual in the next phase.

To an institutionalist, knowledge of what has gone before is vital information. The ideas and insights of our predecessors provide the context for current efforts and the platform on which we necessarily craft our own contributions (Scott, 2001). Institutions do not emerge in a vacuum; they always challenge, borrow from, and, to varying degrees, displace prior institutions. Institutions ride on various conveyances and are instantiated in multiple media. These institutional carriers vary in the processes they employ to transmit their messages. In addition, institutions operate at multiple levels, from the world system to interpersonal interaction.

3.4.1 Legitimacy

The term or concept legitimacy is the central concept related to institutional theory and the condition and development of organization. “Organizations require more than material resources and technical information if they are to survive and thrive in their social environments. They also need social acceptability and credibility” (Scott et al., 2000:237). Suchman (1995) defines legitimacy as follows: “Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (p. 574). Legitimacy is a generalized rather than an event-specific evaluation and is “possessed objectively, yet created subjectively” (p. 574).

Myer and Scott (1983) propose that “organizational legitimacy refers to the degree of cultural support for an organization” (1983:201). Stinchcombe (1968) asserts that, in the end, whose values define legitimacy is a matter of concerted social power. A cultural-cognitive view stresses the legitimacy that comes from adopting a common frame of reference or definition of the situation. It is important to note that in terms of organization, one has to know/adopt a common frame of reference or definition of a situation to be legitimate to organize in that situation. Otherwise, one is not seen, or rather felt, as knowing and skillful and capable of strategic and operational acts in the given situation. The reasoning behind why one is not felt as knowing, skillful, and capable in the situation may be difficult, since the assessment may be based on un/preconscious, taken-for-granted understanding. The cultural-cognitive mode is the “deepest” level because it rests on preconscious, taken-for-granted understandings.

3.4.2 Agency

Throughout the history of social science, there has existed a tension between those theorists who emphasize structural and cultural constraints on action and those who emphasize the ability of individual actors to “make a difference” in the flow of events (Scott 2001: 75). Scott (2001) adds that obviously, the thrust of institutional theory is to account for continuity and constraint in social structure, but that need not preclude attention to the ways in which individual actors take action to create, maintain, and transform institutions. More recent work including that of both DiMaggio (1988; 1991) and Powell (1991), gives more attention to the ways in which both individuals and organizations innovate, act strategically, and contribute to institutional change (see Oliver, 1991; Christensen et al., 1997).

The work of Anthony Giddens (1979; 1984) on structuration has provided a productive framework for examining the interplay between these forces. Structuration is the term coined by Giddens to remind us that social structure involves the patterning of social activities and relations through time and across space. Social structures only exist as patterned social activities, incorporating rules, and resources that are reproduced over time. Giddens (1984) envisions what he terms the “duality of social structure,” recognizing it to be both a product and platform of social action. Social structures exhibit a dual role in that they are “both the medium and the outcome of the practices they recursively organize” (p. 25). Individual actors carry out practices that are simultaneously constrained and empowered by existing social structure.

Structuration theory view actors as creating and following rules and using resources as they engage in the ongoing production and reproduction of social structures. Actors are viewed as knowledgeable and reflexive, capable of understanding and taking account of everyday situations and of routinely monitoring the results of their own and others’ actions. Agency refers to an actor’s ability to have some effect on the social world, altering the rules or the distribution of resources. The presence of agency presumes a non-determinant, voluntaristic theory of action: “to be able to ‘act otherwise’ means being able to intervene in the world or to refrain from such intervention, with the effect of influencing a specific process or state of affairs” (Giddens 1984:14). All actors, both individual and collective, possess some degree of agency, but the amount of agency varies greatly among actors as well as among types of social structures. Agency itself is socially constructed.

Weick (1979; 1995) emphasizes that the understandings and scripts not only guide actions but also emerge out of them, and that collective symbols are as likely to be used to justify past behaviors as to guide current ones. Newer versions of role and cultural theory view individuals as playing an active part, using existing rules and social resources as a cultural “tool kit” for constructing strategies for action (Swidler, 1986). From the viewpoint of this study, it is important to understand and track the institutional developmental conditions and settings where individuals - playing an active part - have led to the emergence and reproduction of specific business organizations and entrepreneurial teams contributing to them.

3.4.3 Carriers and levels of institutions

Institutions, whether they stress regulative, normative, or cultural-cognitive elements, are embedded in various types of repositories or carriers (see Jepperson, 1991: 150). Scott (2001) identifies four types of carriers: symbolic systems, relational systems, routines, and artifacts. The recent conceptions of culture stress symbolic schemata that include models, classifications, representations, and logics (Jepperson and Swidler, 1994:361). All can be examined as social phenomena external to any particular actor, but also as subjective, internalized cognitive frames and beliefs.

Institutions are described as capable of operating within organizational subunits whereas others function at levels as broad as that of world systems (Scott, 2001). Economic historians focus on the macro levels, examining the origins and functions of the transnational and national rules and enforcement mechanisms that are developed to regulate the economic behavior of firms and individuals. Historical institutionalists emphasize the study of regulatory regimes and governance mechanisms that operate at the societal and industry level.

Zucker (1977) observed that “institutionalization is both a process and a property variable” (p. 728). That is, for some purposes, we treat an institution as an entity, as cultural or social system characterized by one or more features or properties. On other occasions, we are interested in institutionalization as a process, as the growth (or decline) over time of cultural-cognitive, normative, or regulative elements capable, to varying degrees, of providing meaning and stability (and also change and even chaos) to social behavior.

The process theories deal with “a series of occurrences of events” (Mohr, 1982:54). In process theories, time is of the essence, in particular, the time ordering of the

contributory events. “In a process analysis, events are represented as taking place sequentially in real time” (Langlois, 1986: 7). Process theories vary in their degree of formalization. Most often, a process argument is a historical account: a narrative frequently consisting of “stage-naming” concepts that provide a description of a sequence of events.

One of the best-known studies of this type at the world-system level is the historical (process) account provided by North and Thomas (1973) of “the rise of the Western world.” These economic historians argue that economic growth will not occur unless there are mechanisms that closely align social and private rates of return. Individuals will be motivated to undertake socially desirable activities only if they provide private benefits that exceed costs. This situation, in turn, requires that appropriate property rights be established and enforced.

3.4.4 Creation and diffusion of institutions

Suchman (1995) provides an illuminating general discussion of conditions giving rise to new institutional arrangements. He suggests that the impetus for institutional creation is the development, recognition, and naming of a recurrent problem to which no existing institution provides a satisfactory repertoire of responses. These cognitive processes can be viewed as giving rise to collective sense-making activities (Weick, 1995), as actors attempt to understand and diagnose the problem and propose what are, at the outset, various ad hoc solutions. Once these responses have been “generalized into solutions,” it may be possible for the participants to engage in “a more thoroughgoing ‘theorization’ of a situation – in other words, to formulate general accounts of how the system works, how it should work and, in particular, of which solutions are appropriate in which contexts” (Suchman, 1995:43). Solutions generated in one context may then diffuse to other situations regarded as similar. Suchman’s discussion builds from Berger and Luckmann’s (1967) general formulation of institutionalization.

The diffusion of institutions across space or time has double significance in institutional analysis. First, diffusion of a set of values, rules, or structural forms is often taken as an indicator of the extent of the strength of an institutional structure. In this sense, studies of institutional diffusion may be regarded as studies of increasing institutionalization. Second, because diffusing elements are being adopted by and incorporated into organizations, studies of diffusion are also properly treated as studies of institutional effects. In such studies, it is often argued that early or later

adoption follows different principles because of the changing strength of the institutions and also because of the varying characteristics of the adopting organizations.

Several distinctions are helpful in understanding the various ways in which institutions are diffused. DiMaggio and Powell's (1983) useful typology focuses attention on three contrasting mechanisms – coercive, normative, and mimetic – that identify varying forces or motives for adopting new structures and behaviors. Other analysts, such as Brown (1981), distinguish between demand- and supply-side explanations of diffusion.

Strang and Meyer (1993) stress the centrality of cultural-cognitive elements in institutional diffusion processes. They argue that diffusion is greatly affected by various theorization processes. For diffusion to occur, the actors involved need to regard themselves as similar in some important respect (the creation of categories such as the generic organizations or particular subtypes facilitates this process). Theorization also provides causal accounts, explanations for why some kinds of actors need to add specific components or practices. It contributes to objectification, a growing “consensus among organizational decision-makers concerning the value of a structure, and the increasing adoption by organizations on the basis of that consensus” (Tolbert and Zucker, 1996:182).

Many institutional scholars have studied the diffusion of ideologies or belief systems, forms, or archetypes – conceptions about how to organize – and processes of procedures. The central notion is that nothing is as portable as ideas. They travel primarily by cultural carriers, although they also are conveyed by relations and artifacts. And although they may circulate via specific social networks, they also ride on more generalized media (Scott, 2001).

Innovations with public consequences are mainly adopted when information and imitative are uniformly distributed around the world. This process is most effective when norms, values, and expectations about certain forms or practices become deeply ingrained in society – institutionalized – and reflect widespread and shared understandings of social reality (Meyer and Rowan, 1977: 343) as for example the rapid spread of mass education, social security systems, and models of nation-states among the world's political states (Thomas et al., 1987).

Another, lesser influence on innovations with public consequences is the effect of media (Obershall, 1989; Weimann and Brosius, 1994). Media become a channel of influence for adoption primarily when the innovations are popular, well-defined societal issues (for example the Internet, mobile telephones). Media effects support the role of institutionalization, spreading information about those institutionalized practices that captivate public interest. As Uhlin (1995) argued in his study on the diffusion of democracy models, media are effective in providing information about innovations with public consequences, but the persuasive role in the adoption of innovation is the country-country interaction. There would be limited interest in for example adoption of democracy if the democracy models were not institutionalized.

DiMaggio and Powell (1983) astutely observe that the nation-state and professions “have become the great rationalizers of the second half of the twentieth century” (p. 147). Other scholars point out the increasing importance of a wide array of international actors – professional and scientific associations, non-governmental organizations, and multilateral agencies – that operate at a level above individual societies. Finally, cultural frameworks provide an important, newly recognized source of institutional influence. From the perspective of this study, different agents may have different roles and angles and interests in institutional development. The role and interest of a single state may be different from those of an international actor.

States have the capacity to “define and enforce property rights, [that is], the rules that determine the conditions of ownership and control of the means of production” (Campbell and Lindberg, 1990:635; see also Campbell, Hollingsworth, and Lindberg, 1991). Labor laws, for example, affect what rights workers have to take collective action, and antitrust laws limit concentration of ownership and activities that constrain competition. The capacity to create and transform property rights is just a special case of the power vested in institutions to constitute actors, both individual and collective. For economic actors, property rights are among the most fateful and significant rights to be conveyed. Equally important are the rules established by nation-states to define political rights accorded to citizens and interest groups. As institutional structures, arenas, and definers of property and political rights, states primarily exert cultural-cognitive effects on organizations and organizational systems (see Scott, 1994; Suchman and Edelman, 1997).

Joining nation-states and professions as important institutional actors exercising normative and regulative authority is an increasingly diverse array of organizations and associations operating at the international level. The dominant global actors

(institutions) in the contemporary world, in addition to nation-states, include transnational corporations and international nongovernmental organizations (INGOs). Meyer et al. (1997) argue that all of the collective actors like – nation-states, professions, and INGOs – are themselves a product and serve as carriers of broader, worldwide cultural frameworks supporting rationalization activities of many types. They function less as independent agents and more as enactors of social scripts.

Meyer and colleagues develop their arguments at the world-system level, attempting to show that some of the ostensibly most powerful and autonomous actors, such as nation-states, are constituted by cultural forces. They argue that nation-states follow blueprints developed and promulgated at the level of the world system. How else can the isomorphism of nation-states be explained, the extent to which national societies claim the same prerogatives and exhibit similar structures despite widely varying histories, economic circumstances, geography, and demographic composition? Numerous studies by Meyer and colleagues show that nation-states that have more ties to the world system (for example, more connections to INGOs) are more likely to exhibit structures and processes associated with modernity (Meyer et al., 1997). In this study we are keen on the diffusion and adaption of structures and processes empowering and constraining new business venturing.

Similarly, although the global environment is increasingly traversed by a complex mix of transnational actors – businessmen, financiers, scientists, and activists, as well as a growing number of INGOs – these individual and collective actors can be viewed as carriers of global cognitive-cultural elements including the taken-for-granted entrepreneurial organization or the split of actors into those who favor globalization and those who fight against it. As Meyer (1994) asserts, “this environment functions less as a coherent rational superactor (e.g., a tightly integrated state of highly coordinated invisible hand) than as an evolving set of rationalized patterns, models, or cultural schemes” (p. 33). These organizations do not command and control but rather inspire and inform.

Most analysts embrace a “top down” approach, emphasizing the role of global institutions, nation-states, or professional groups in shaping field definitions. Meyer (1977), for example, argues that widely held cultural beliefs operating at the world-system level provide much structure and support to educational systems in specific societies and account for much of the uniformity and coherence observed within this field. Meanwhile, it is obvious that governance systems for society as a whole will influence governance systems for sectors in that society. Social policies, such as equal

employment opportunity or occupational safety controls, tend to be applied broadly across sectors (Wholey and Sanchez, 1991).

On the other hand, a “bottom up” approach emphasizes the role and capability of nations, fields, organizations or even groups of individuals to identify regional, national, even international institutional opportunities and to be involved in and contribute to international organization and institutional development.

Biggart and Guillén (1999) contrasted paths of economic development in four countries: South Korea, Taiwan, Spain, and Argentina, focusing on the automobile assembly and components industries. They propose that these divergent paths of economic development can be explained by taking account of a society’s distinctive institutional pattern of organizing and the opportunities made available by global markets. As a result of its distinctive historical development, each society acquires a set of organizing logics: beliefs, norms, routine practices. These logics (see also Whitley’s recipes, Whitley, 1992) are systems of internally coherent ideas that (a) inhibit the development of alternative models, even if they are “more efficient”; and (b) provide “repositories of distinctive capabilities that allow firm and other economic actors to pursue some activities in the global economy more successfully than others” (p. 726).

3.4.5 Institutions and performance

Institutions provide a framework of what is intended, accepted, and allowed (i.e. what is meaningful). They also provide a framework for what is performance (or a high level of performance). Performance is related to institutionalized values, norms, and regulations. The level of performance is related to the contribution (the contributive position) to those institutions/institutional opportunities. The logic underlying the level of performance is that one must be involved in these institutions and act on the institutional opportunities in order to be meaningful and supported by others and to sustain a high level of performance.

The dilemma is that when one does not represent these widely accepted institutions and is not involved in them, and does not take advantage of the institutional opportunities (intentions, acceptance, and allowance; contents, agents) nor share in the institutions and institutional opportunities, one does not contribute strongly to them (they are taken for granted) even if there is strategic intent to do so; one does not feel competent and strongly supported by others and motivated in those

institutional conditions and one does not perform at a high level. In sum, one is not reasonable, meaningful, legitimate, efficient, and economical in terms of what is widely intended, accepted, and made possible. However, one may still feel that adoption of particular institutions is a requirement.

In the early stages of an institutionalization process, adoption of a practice by individuals, groups of individuals, organizations, fields and/or societies represents a choice on their part, which can reflect their varying specific needs or interests. As the institutionalization process proceeds, normative and cultural pressures mount to the point where adoption becomes less of a choice and more of a requirement. Differences among individual organizations are of less consequence when confronted by stronger institutional imperatives. Although, in one sense, the logic of action has shifted from one of instrumentality to appropriateness, in another sense, the situation confronting each organization has changed so that it is increasingly in the interest of all to adopt the practice.

Tolbert and Zucker (1983) interpreted the weakening correlations as evidence of the development of widespread and powerful cultural norms (and order) supporting civil service reform, so that all cities were under increasing pressure to adopt the reform, regardless of their local needs or circumstances. Whereas ecologists proposed that isomorphism resulted from competitive processes, as organizations were pressured to assume the form best adapted to survival in a particular environment (see Hannan and Freeman, 1989), neo-institutionalists emphasized the importance of social fitness: the acquisition of a form regarded as legitimate in a given institutional environment. DiMaggio and Powell (1983) reinforced this emphasis on institutional isomorphism, focusing attention on coercive, normative, and mimetic mechanisms that “make organizations more similar without necessarily making them more efficient” (p. 147).

Carroll and Hannan (1989) were the first to provide theoretical interpretation of this empirical finding, arguing that a particular organizational density serves as an indicator of the cognitive status of the form: its cognitive legitimacy. They propose that an organizational form is legitimate to the extent that relevant (meaningful) actors (at particular accumulated/emerged conditions) regard it as the natural way to organize for some purpose.

3.4.6 Aspects related to institutional consistency and contribution

Earlier studies emphasized the effects of institutional context on all organizations within the relevant environment. The institutional environment was viewed as unitary and as imposing structures or practices on individual organizations, which were obliged to conform either because it was taken for granted that this was the proper way to organize, because to do so would result in normative approbation, or because it was required by legal or other rule-like frameworks. Later studies began to emphasize differences among individuals, groups of individuals, and organizations, recognizing that whether, when, and how organizations respond depends on their individual characteristics or connections (or position). Organizations also differ in the number and kinds of linkages they have with other actors in their environment.

Organizations vary in many ways, but only a few of these differences have been found to be regularly associated with early adoption. Numerous studies have found that organization size is important, larger organizations being prone to early adoption.² In private sector organizations, the characteristics of CEOs have been found to affect adoptive behavior. CEO background – for example, whether the CEO's experience comes from production, marketing, or finance (Fligstein, 1985; 1990) – and CEO power vis-à-vis the corporate board (Westphal and Zajac, 1994) are associated with the adoption of new structural forms and with CEO compensation protections and incentive systems.

Several studies have emphasized the role of top management teams in providing a context and tool for successful adoption. Those studies have confirmed the link between management team and organizational performance especially in high-velocity conditions (Murray, 1989; Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992). Management teams are also linked to organizational innovation (Bantel and Jackson, 1989), strategy (Michel and Hambrick, 1992) and strategic change (Wiersema and Bantel, 1992).

The key findings are as follows: organizations are prone to imitate the behavior of organizations that are geographically proximate (Davis and Greve, 1997; Greve, 1998); that are perceived to be similar to themselves (for example, operating in the

² This is logical if the big corporations are highly respected and in a persuasive position for creation and negotiation of new meanings. On the other hand, they may be prone to early adoption since they are in the position to lose the most if they lose their competitiveness.

same industry) Palmer, Jennings, and Zhou, 1993; Haunschild and Beckman, 1998; Porac, Wade, and Pollock, 1999; that are closely connected by ties, including resource, information, and board interlocks (Haunschild, 1993; Uzzi, 1996; Kraatz, 1998; Galaskiewicz and Bielefeld, 1998); that have high status or prestige (Burns and Wholey, 1993); and that are more (visibly) successful (Haveman, 1993; Haunschild, and Miner, 1997; Kraatz, 1998). The arguments associated with these variables range from strictly institutional ones to vicarious learning and political maneuvering. More important, however, these studies begin to show the ways in which institutional processes interact with interest-based motivations to guide organizational choices and behaviors (see also Baum and Dutton, 1996; Dacin, Ventresca, and Beal, 1999).

3.4.7 Strategic responses

Recent theorists and researchers have stressed the varied nature of organizational responses to institutional demands. In some situations, individual organizations respond strategically, either by decoupling their structures from their operations or by seeking to defend themselves in some manner from the pressures experienced. In others, the demands themselves are negotiated, as organizations collectively attempt to shape institutional requirements and redefine environments. From the perspective of this study, the literature and research on strategic responses may provide knowledge on how organizations seek to cope with institutions and institutional development, depending on how competent they feel and perceive themselves in the accumulating institutional conditions and development.

Oliver (1991: 152) delineates five general strategies available to individual organizations confronting institutional pressures and opportunities: acquiescence, compromise, avoidance, defiance, and manipulation. The first, acquiescence or conformity, is the response that received the lion's share of attention from institutional theorists. As we have seen, it may entail either imitation of other organizations selected as models or compliance to the perceived demands of cultural, normative, or regulative authorities. It may be motivated by anticipation of enhanced legitimacy, fear of negative sanctions, or hope of additional resources.

Compromise incorporates a family of responses that include balancing, placating, and negotiating institutional demands. It is particularly likely to occur in environments containing conflicting authorities. In liberal, pluralistic societies like the United States, inconsistent and contesting institutional frameworks are commonplace (Friedland and Alford, 1991). This implies that organizations will frequently find

themselves in situations in which they have considerable room to maneuver, interpret, bargain, and compromise.

The strategy of avoidance, as defined by Oliver, includes concealment efforts and attempts to buffer some parts of the organization from the necessity of conforming to requirements. Defiant organizations not only resist institutional pressures to conform but do so in a highly public manner. Defiance is likely to occur when the norms and interests of the focal organizations diverge substantially from those attempting to impose requirements on them.

Organizations may respond to institutional pressures by attempts at manipulation, the “purposeful and opportunistic attempt to co-opt, influence, or control” the environment (Oliver, 1991:157). Numerous scholars, from Selznick (1949) to Pfeffer and Salancik (1978) to Alexander (1995), have examined the ways in which organizations attempt to defend themselves and improve their bargaining power by developing linkages to important sources of power. Of special interest to institutional theorists are the techniques used by organizations to directly manage views of their legitimacy. However, Scott (2001) adds that institutional rules set the limits within which strategic behavior occurs.

More than the actions of single organizations, concerted responses by multiple organizations have the potential to shape the nature of demands and events to redefine the rules and logics operating within the field. Scott (2001) suspects that processes – in which rules or normative controls are proposed or legislated, interpretations and collective sense-making activities take place among participants in the field to which they are directed, and requirements are then redefined and clarified – are more often the rule than the exception (Scott, 2001:176).

A study of Kaplan and Harrison (1993) examines the reactions by organizations to changes in the legal environment that exposed board members to a greater risk of liability suits. Corporations pursued both proactive strategies, adapting to conform to environmental requirements, and reactive strategies, attempting to alter environmental demands. Both involved collective as well as individual efforts. The Business Roundtable, a voluntary governance association, “took the deal in coordinating the conformity strategy by making recommendations on board composition and committee structure” (p. 423), consistent with the concerns raised by such regulatory bodies as the Securities and Exchange Commission. Proactive collective strategies included lobbying efforts directed at states to broaden the

indemnifications protection for outside directors as well as the creation of insurance consortia to underwrite the costs of providing director and officer liability insurance to companies.

Scott (2001) states that these decoupled responses are often seen to be merely symbolic, the organizational equivalent of “smoke and mirrors” (see Perrow, 1985). However, to an institutionalist, the adjective merely does not fit comfortably with the noun symbolic. The use of symbols, a process by which the organization connects to the wider world of meaning, exerts great social power (see Brunsson, 1989; March and Olsen, 1989). Second, numerous studies suggest that although organizations may create boundary units for symbolic reasons, these structures have a life of their own. Personnel employed in these units often play a dual role; they both transmit and translate environment demand to organizations, but they also represent organizational concerns to institutional agents (see Taylor, 1984; Hoffman, 1997).

4. Theoretical framework of the research

On the one hand, the study combines prior research on teams and on performance and on the other, the literature of entrepreneurship and growth and the literature of institutions and establishes the following framework. Four essays were written to capture the framework and to contribute to the link between top team aspects and firm performance and growth. Each essay introduces an additional construct in order to explain the link.

The study starts by drawing on the prior literature of teams regarding firm outcomes and performance and by hypothesizing five different models underlying the effect of teams on firm performance. In the next stage, contextual variables are added to the analysis. First, the differential effects by industry, firm size, and perceived product innovativeness on firm performance and growth. Second, the moderating effects by strategic orientation on the link between aspects of team and firm performance and growth. In the final stage, the institutional developmental context and position within it are taken into the analysis to increase our understanding of the link between team aspects and firm performance and growth. At the same time, the effects of other suggested models on firm performance and growth are further interpreted.

In the first essay the units/levels of analysis are the team level and organization level. In the latter essays also field level, state and international/global level are included in the analysis. The framework suggests a multiple level of analysis providing a more accurate and dynamic understanding on the link.

4.1 Five models on the impact of management teams on organizational performance

4.1.1 The resource effect model

The first model suggests that there is a direct effect of the resources, knowledge, and skills of the team on organizational performance. This model is based on the argument that basic resources, knowledge, and skills are needed in order to be able to operate successfully and as a team in the market. The function of the group is seen as being one of bringing together the resources needed for success. Six aspects of the management team's basic resources will be analyzed as they relate to firm performance and growth: the team's industry experience (Eisenhardt and

Shoonhoven, 1990), the team's work experience (Timmons, 1994), the complementarity of functional backgrounds (technology/marketing) (Cooper and Bruno, 1977), team size (Eisenhardt and Shoonhoven, 1990) and the team's joint experience/team tenure (Roure and Keeley, 1990; Katz, 1982).

4.1.2 The structural effect model

The second model is based on the assumption that there are compositional or demographic effects resulting from the specific demographic distribution, which are more than the sum of the effects of the individual-level variates. This means that it is not resources themselves, but their structures which explain the link between the team and organizational performance.

Four aspects of the management team's structure will be included in the structural model as they relate to firm performance and growth: heterogeneity in the functional backgrounds and experience of team members (Zenger and Lawrence, 1989; Keck, 1997), variation in the team's industry experience (Eisenhardt and Schoonhoven, 1990), variation in the team's joint work experience and tenure (Keck, 1997), and variation in the level of education (Smith et al., 1994). Eisenhardt and Schoonhoven (1990) argued that some forms of heterogeneity are desirable for performance because they contribute to team creativity, especially in high-velocity environments.

4.1.3 The group process model

The third model suggests that top management team's process will directly affect performance. This process model predicts that both demography (group resource and structural models) and process will be directly and independently related to organizational performance, with process accounting for the variation in performance that demography leaves unexplained. The rationale for the process model is derived from social psychology research. This literature has identified social integration and communication as two key predictors of group performance (Cartwright and Zander, 1968; Shaw, 1981; McGrath, 1984). They have been included in the underlying theory in previous studies of top management teams to explain relationships between specific measures of team demography and organizational performance, though they were not measured (e.g., Murray, 1989; Eisenhardt and Schoonhoven, 1990; Keck, 1991; Michel and Hambrick, 1992).

Three aspects of management team's process will be included to the model: social integration within the team (Smith et al., 1994), communication frequency (Daft and Lengel, 1992) and communication informality (Shaw, 1981). However, there has been some controversy over whether these factors influence team performance positively or negatively (Smith et al., 1994). We suspend judgment for the present.

4.1.4 The group task leadership model

The fourth model proposes that it is not the resources themselves, their structure (heterogeneity or variation) or their processes that are important, but how effectively they are organized toward the achievement of the particular task. This model concerns the leadership function of the group.

Two aspects of the management team's task leadership will be analyzed as they relate to the firm performance and growth: the perceptions of team members about the clarity of various issues concerning task behavior (Gladstein, 1984) and their perceptions about the degree of shared understanding within the management team (Matthes, 1992).

4.1.5 The model of personal integration with the task

The fifth model suggests that besides the direct effects of resources, structures, processes, and task leadership, there is an additional direct effect on performance caused by the personal integration of team members into the task process. The ultimate value of high-quality decisions depends to a great extent upon the willingness of managers to cooperate in implementing those decisions (Guth and MacMillan, 1986; Woolridge and Floyd, 1990). However, the limited evidence that exists suggests that processes deemed to lead to the highest-quality decisions may adversely influence the affective responses of team members to the process (Amason, 1993). Strategic decision-making teams whose members have fully aired their views in reaching decisions are at times left uncommitted to the decisions and disinclined to work together in a cooperative manner in the future (Schweiger et al., 1986). A more complete view of effective decision processes should therefore consider not only the quality of decisions, but also the impact of such processes on team members' affective responses, such as commitment to the decision, attachment to a team, and trust in its leader (Korsgaard et al., 1995).

Three combined aspects concerning the personal integration of team members into the task will be analyzed as they relate to performance: the commitment to the task (Korsgaard et al., 1995), the degree to which team members perceive their motivation toward the task more as an intrinsic than an extrinsic controversy (Ryan, 1993) and the degree to which team members have internalized the values and goals of the task process to their core self (Ryan, 1993).

4.2 Differential effects by industry, firm size, and perceived product innovativeness

The model suggests that the effects of team aspects on firm performance vary greatly between different contexts. The model suggests that the direct resource effects would have a positive influence on firm growth in mature industries and in medium-sized and moderately innovative companies. On the other hand, the structural and processual effects of teams on firm growth would be emphasized in young industries and in small and innovative companies.

Prior research on small business and venture growth as well as team research has demonstrated that firms attempt to match their teams and operations to their environments. Research relates the top management team structure to environmental conditions such as uncertainty (Bantel, 1993), turbulence (Hebl and Finkelstein, 1993; Keck and Tushman, 1993; Lant et al., 1992; Murray, 1989; Keck, 1997), munificence (Wiersema and Bantel, 1993), and high velocity (Eisenhardt, 1989; Eisenhardt and Schoonhoven, 1990; Smith et al., 1994). The theoretical rationality behind those results is that demands and claims for the knowledge and skills for the management of company are different in different environmental and industry contexts (Lawrence and Lorch, 1969) and organizational phases (Grainer, 1972). This causes the effects of team aspects on firm performance to vary greatly between different contexts.

4.3 The interaction effects of strategic orientation

The model suggests that team aspects have to match the strategic orientation adopted by the firm and that strategic orientation tends to moderate the effects of team diversity to firm growth. This model is derived from strategic management literature, which has long argued that management characteristics should “fit” organizational strategy (e.g.

Hofer and Davoust, 1977). The model assumes that the strategy context of firms provides a reality distinct from the environmental and organizational contexts that would have their own moderating effects on the relationship between team aspects and firm growth. The model suggests that the strategic orientation of a firm and the team diversity will interact and together be positively or negatively related to firm performance depending on the demands posed by the particular strategic orientation on the task domain of the team.

An additional argument concerning the link between demography, process, and firm growth is that the demography aspects of the team would interact with strategy conditions, but as the intervening individual or team processes, like affective commitment, are already an outcome thereof, they will not interact with strategy condition. Thus strategic orientation will not moderate the relationship between the affective commitment of team members and firm growth.

4.4 Institutional development and a position of the sample/population studied within it

The model argues that there might be overall differences in social/institutional contexts providing different conditions for the identification of business opportunities and the organization and development of businesses and teams and that these differences are also reflected in the emergence and existence of the relationship between team aspects (demography, process) and firm performance and growth. By theorizing and analyzing the social/institutional contexts (conditions, settings and position within them) and their links/relationships/dependence, we are able to further increase our understanding of the emergence and existence and the quality of the relationship between team demography, process, and firm performance and growth.

This model is derived from institutional theory (and assumptions of scientific realism), which argues that in terms of understanding organization, performance, and the relationships between them, it is important to identify and understand to which institutional/physical developmental condition the emergence, existence and meaningfulness of the studied phenomena, organization and relationships are related and what is the position of sample/population or case studied within this institutional/physical development (c.f., Scott, 2001). The model suggests that accumulated institutional conditions and developmental settings and the position of the sample/population studied therein provide further explanations for particular

organization and the emergence and existence (or non-emergence and non-existence) of the relationship between top team aspects and firm performance.

5 Empirical research design

5.1 The research process

The study started with a cross-sectional survey to test the hypothesis drawn from prior literature. During the research process it became evident that a qualitative interview study with a longitudinal perspective was also needed in order to take the phenomena and results into the particular social context from which they emerged and existed. With regard to interpretations and suggestions for practical managers and developers, it is essential to be able to understand the emergence and formation of particular businesses and teams and the emergence and development of the relationship between a particular team and firm performance and growth in the social, institutional, and physical context in which it took place. This also helps to identify one's own position on and contribution to that social, institutional and physical context of meaning. This analysis is important in order to be able to improve one's meaningfulness and thus level of performance in terms of phenomena studied.

In the beginning the research focused on the team and organization levels of analysis. During the process industry/field level, state level, and international/global levels were also included in the analysis. Although it is conventional among macro scholars to characterize such systems as operating in the organization's environment (see Zucker, 1987), it is important to recognize that these systems are carried in the minds of individuals. They exist not only as "widely held beliefs" in the wider environment or as laws that organizational actors need to take into account, but also as ideas or values in the heads of organizational actors. Scott (2001) states that indeed, attending to this connection is one of the vital ways in which institutional analysis can help to link the work of micro and macro organizational scholars. Tiny changes in what individuals widely accept and aim for can be identified in the great differences that exist in organization and development on the macro level. On the other hand, those developed, institutionalized macro conditions greatly shape what is appropriate, acceptable, and possible for a single individual in the next phase.

5.2 The research methods

The study adopts the assumptions of scientific realism (e.g. Sayer, 1992). Both the physical observable world together with the subjective worlds of meanings forms a base

for the data and analysis when the “objective” or at least the inter-subjective regularities and causalities of the world are identified.

This study combined both quantitative and qualitative methods. A quantitative survey (essays 1, 2 and 3) together was carried out with a qualitative open-ended interview study (essay 4). In addition, archival material regarding companies, industry, and wider economic development was used in the study.

The advantages of a survey for this study were the following (Ornstein, 1998):

- 1) Surveys are an efficient way of collecting information from a large number of respondents.
- 2) Surveys are flexible in the sense that a wide range of information can be collected.
- 3) Many questions can be asked about a given topic giving considerable flexibility to the analysis.
- 4) Statistical techniques can be used to determine validity, reliability, and statistical significance.

On the hand, the weakness of the survey method for this study was that only questions of interest to the researcher were asked, recorded, codified, and analyzed. This was offset by also carrying out an open-ended qualitative interview study.

The qualitative study approach is particularly relevant to examination of an environment where the boundaries between the phenomenon of interest and the context are not clearly evident (Yin, 2003). On the other hand the qualitative-constructivist methodology used in the interview study has the unique advantage of exploring the effect of the symbolic in institutional processes as it stresses the embodiment of experience in shared sociolinguistic meanings and practices (Berger and Luckmann, 1967). Cause-and-effect relations are mediated by symbolic and ideational realms, embedded within power relations (Gergen, 1999). From a constructivist perspective, organizations and environments are understood as mutually constituted through complex social interactions and negotiations of meanings (Smircich and Stubbart, 1985: 726).

The methodology of the study emphasizes the explanation of managerial practices and beliefs as outcomes of underlying social processes. From the point of view practically-oriented management research, social science seeks to improve managerial practices by

producing knowledge which identifies why they arose, developed and became socially reproduced and to suggest how they can be changed. This necessitates going beyond everyday accounts of problems and activities in order to understand the processes generating such accounts so that they can be altered (Whitley, 1984).

5.3 The industries chosen

Prior research has shown that top management teams are likely to have the greatest impact on organizational outcomes in high-velocity environments (Eisenhardt, 1990) where managers have more decision discretion (Finkelstein and Hambrick, 1990). Therefore, the research and models concerning the link were explored with a sample of young, technology-intensive companies from a high-discretion, high-velocity market environment that was becoming more and more global.

The sample presented companies founded in between 1983-1995 in two industries: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). Those industries have been the drivers of ICT (Information and Communications Technology), which has been regarded as one important cause and effect (agent) of market globalization and an industry or field that has itself become very international or global.

On the other hand, our one aim was to explore the moderating effects of the developmental phase of industry. The subsamples of the electronics industry and software industry were thought to serve this goal. The electronics industry is already in a more mature but still growing stage, while the software industry is in its early growth phase.

In terms of the practical implications of the study, the chosen industries represent one of the most important industrial branches for the Finnish economy and the study results also have practical implications for the competitiveness of those industries.

5.4 The study data

The study data consist of mail survey data from 47 top management teams and the interview data from 81 top managers in 63 companies. In addition, archival material on companies, industry, and the wider economy was utilized.

The survey

The mail survey data consist of questionnaire responses from 47 top management teams in the chosen industries, 28 of them representing manufacturers of electrical and optical equipment and 19 software firms. Together 147 responses of the 172 supplied by the CEOs of the companies were received making the average per team response 3.1.

The companies in the sample ranged in size, measured in sales from \$400 000 to \$48 million. The three largest companies with sales \$728, \$271 and \$113 million were analyzed separately from the sample. The companies in the study were engaged in the same kind of businesses as the firms included in the final sample.

The target population for the study was the top management teams of a set of technology-based companies founded between 1983 and 1995. Two different types of industries were included in the study: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). The former was thought to represent a sector that had reached a more mature stage, while the latter was in an earlier stage of development.

The names of firms were first identified from a database consisting of all the companies in the industry in Finland. Three hundred and eighty-eight companies with more than five employees were listed from the selected industry sectors. After initial contacts (letters and phone conversations) the survey was sent to 111 companies and 430 members of their top management teams. To operationalize the teams, we asked each CEO to identify the members of his or her “real” top management team. The average number of team members per firm in the sample supplied by the CEOs was 3.9.

The sample was split into following subsamples: companies with SIC codes 32-33, representing a mature industry; companies with SIC code 72, representing a young industry; companies with 1-49 employees categorized as small; companies with 50-500 employees representing medium-sized companies; and finally, companies whose innovativeness index was 3 or less, which were ranked as low or moderately innovative, and companies whose innovativeness index was 4 or more, which were ranked as highly innovative. The innovation index was an average of three items that measure technical innovation (Eisenhardt and Schoonhoven, 1990) and one item that measures the overall innovativeness of the business as indicated by the CEO of the company.

Interview study

Besides the survey, altogether 81 top managers from 63 companies were interviewed between August 28, 1999 and January 20, 2000. The companies chosen were added to the interview sample, since they were thought to provide some insight into and a comparison of companies seen as very competitive in the markets. One-third of the managers interviewed (30) represented 18 companies which had answered our survey in spring 1999. Two-thirds of the interviews (51 interviews in 45 companies) were carried out in companies which had not participated in our survey study in order to increase the representativeness of our study and at the same time to control for any bias in our prior sample.

The number of managers interviewed per company varied from one to six. Two or more top managers were interviewed in ten companies (in two companies up to six top managers). By interviewing several members of top management teams, we sought to have multiple views on the organization of the business and teams and more rich data related to the issues and conditions of the performance of the teams and businesses. The interviews lasted from one to two hours per manager. All but three of the interviews were tape recorded. In these three cases written documentation was made.

5.5 The study analysis

In the analysis of the survey, a principal component analysis was performed to analyze whether the suggested team effects model components could be identified. The principal component analysis was also performed to reduce the number of variables into a few components that accounted for most of the variation within each model element. A hierarchical regression analysis was then carried out to test the hypotheses (see the more exact descriptions of the regression analysis used in methods part of each essay).

In the interview study analysis, on the other hand, the tape recorded interview data were analyzed in addition to the archival data published by the companies in order (1) to depict the formation and development of the business and team as part of the wider development of competitive conditions, (2) to gain insight into those conditions, and to understand and describe in more depth the conditions of business organization and teams with particular demographics, resources, structures and processes as they emerge and develop and especially (3) to understand the emergence and existence of the link between team aspects and firm performance and growth as part of the development of

competitive conditions. The purpose of the analysis was to categorize new issues (claims, contingences, conditions and settings needed) explaining the emergence and existence of the relationship between top team aspects and firm performance. The grounded theory approach (Glaser and Strauss, 1967) was used since it provides an appropriate method for this task. The key steps of grounded theory are the following: codes, identifying anchors that allow collection of the key points of the data; concepts, collections of codes of similar content that allows the data to be grouped; categories, broad groups of similar concepts that are used to generate a theory; and theory, a collection of explanations that explain the subject of the research. In addition to the grounded theory approach, the qualitative data analysis method (Miles and Huberman, 1999) was used. A full description of the methods and analysis chosen is presented in the essays.

6. Summary of results

6.1 Essay # 1

Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Five Models on the Impacts of Management Teams on Organizational Growth

The first essay drew on the prior literature on entrepreneurship and growth and management teams and small groups and established five alternative models to illuminate the link between venture/management teams and firm growth. The models concerned the effects of team resources, structures, processes, and task leadership and also those of the personal integration of team members with the task process. A principal component analysis was performed to show that the hypothesized factors exist. Regression analysis was then used to test the models with the sample of 47 top management teams. Both percentage increase (or decrease) in sales and ROA were used as dependent variables.

The study found direct effects of the personal integration of team members into the task process on percentage sales growth. It also found a direct effect of team resources on performance when ROA was used. However, prior performance as a control variable explains most of the variation in both percentage sales growth and ROA. The results of the study suggests that besides various aspects of team resources, structures, and processes, more fine-grained variables concerning venturing contexts have to be taken account to provide a better understanding of the link between management teams and organizational performance.

6.2 Essay # 2

Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Differential Effects by Industry, Firm Size, and Perceived Product Innovativeness

The second essay explored whether the intervening effects of venture creation context, specified as industry branch, firm size, and perceived product innovativeness, contribute to our understanding of the link between group and organizational growth. Drawing on recent research on entrepreneurial/management teams, a model consisting

of the effects of team resources, structures, and processes on performance was developed. Separate regressions were then performed for the model in subsamples representing a different context. Percentage sales growth and ROA were used as dependent variables. The overall hypotheses of the study suggested that the direct resource effects would have a positive influence on firm growth in mature industries and medium-sized and moderately innovative companies. On the other hand, the structural and processual effects of teams on firm growth would be emphasized in young industries and small and innovative companies.

The findings of the study gave some support for the hypothesis, while at the same time they raised some strong counter-arguments. Based on the findings, we could argue that team experience, heterogeneity, and processes made positive difference in small firms and innovative companies when both percentage sales growth and ROA were used as dependent variables. On the other hand, in mature industries, medium-sized companies, and low innovative companies team aspects made no difference. These findings contribute to the existing literature on the importance of teams on the founding and growth of the firm especially in high-velocity conditions. The findings are also consistent with the argument that the impact of top teams on firm survival and growth is greater in new companies than in old established firms. In summary, we found that inclusion of contextual issues in the analysis improved the models significantly.

6.3 Essay # 3

Entrepreneurial Top Management Team Demography, Process and Organizational Growth: The Interaction Effects of Strategic Orientation

Essay 3 referred to the literature on contingency and strategy – and on structure –and proposed that it is the fit between the characteristics of the venture/top management and environmental and organizational context that determine whether a particular team aspect has a positive or negative relationship with firm performance. The study suggested that, in addition to this, team aspects have to match the strategic orientation adopted by the firm. The moderating effects of strategic orientation on the effects of team diversity and team members' affective commitment to firm growth were explored.

However, the results gave no support for the relative independence of strategy context together with aspects of team providing partial success determining context. The study suggests that a demanding strategy (strong entrepreneurial orientation or strong

marketing orientation) does not necessarily need more heterogeneous teams in order to be successful. Related to the upper echelons perspective, the strategic choice itself might reflect similarities in the backgrounds of team members. The teams with innovation- and marketing-orientated people will choose their strategy accordingly. On the other hand, they may have chosen each other as team members very much because of a similar mindset.

6.4 Essay # 4

Entrepreneurial Top Management Team Demography, Process and Organizational Growth: An Institutional Explanation

The fourth essay broadened the framework for understanding the relationship between aspects of top management and the success and growth of the firm/organization. The study took its inspiration from some unexpected results in the previous essays of this dissertation. We did not find such strong relationships between top management team demography, process, and firm performance as expected. The results prompted a number of questions: whether the sample was biased, whether there were still some additional issues which should be included in the analysis/equation, whether the hypotheses do not hold in the Finnish context, or whether the hypotheses are no longer relevant in the current accumulated conditions of business organization.

The additional thematic and open ended interview study was carried out in the same population and sample studied. The purpose of the study was to understand in more depth the conditions of business organizations and teams with particular demography, resources, structure and processes as they emerge and develop and especially to understand the emergence and existence of the link between aspects of team and firm performance and growth as part of the development of competitive conditions. The aim of the study analysis was to categorize new issues (claims, contingences, conditions and settings needed) explaining the emergence and existence of the relationship between top team aspects and firm performance.

The interviews and archival data from the companies sampled brought to the fore the emerging and developing international competitive conditions and dependence on those conditions, as an additional explanation for the emergence and existence or non-emergence and non-emergence of the relationship between team aspects and firm performance and growth. The foreign companies (often US-based) seemed to

have great influence on the competitive conditions and conditions of performance and thus also on the emergence of the relationship between top team aspects and firm performance in the sample/population studied. At this stage of the study/analysis subsidiaries of foreign companies (10 companies) were also included to provide deeper insights into strategy and operations as well as the backgrounds and initiation conditions of foreign companies entering Finnish/European markets (often via acquiring a Finnish technology company). Great differences were identified in the strategy, operations, and organizational behavior of foreign companies compared with their Finnish competitors. The differences in behavior, organization and development seemed to originate from the different initiation and growth conditions of those companies.

The further interpretation and reasoning of the study results led us to a more in-depth analysis, and theorization/explanation, hypotheses on the organization, development, and relationships. We drew from institutional theory and analysis, which provides a dynamic framework for understanding the conditions of organization, performance and relationships. Institutional theory argues that in terms of understanding the organization, performance, and relationships, it is important to identify and understand to which institutional/physical developmental condition the emergence, existence and meaningfulness of the phenomena, organization, and relationships studied are related and what is the position of the sample/population or case studied within this institutional/physical development. The study hypothesized how accumulated institutional conditions and developmental settings and position of a sample/population within them further explain a particular organization and the emergence and existence (or non-emergence and non-existence) of a relationship between top team aspects and firm performance. Used to complete the models of our earlier essays, institutional analysis may provide some additional explanation regarding whether, when, how, and why a particular team resource, structure, or process model has an effect on organizational performance and growth. For example, if the institutional position of a team (and an organization and a society) within a particular institutional development emphasizing new business formation and development is weak, there may not be a strong relationship between team aspects and organizational performance and growth.

The study suggests that institutional analysis may provide new insights into the process of organization and the emergence and existence of the link between top management team aspects and firm performance – and thus, the link between top

management team demography, process and organizational performance. The implications to theory and practice are discussed.

7. Discussion and conclusions

This study aims to enhance our understanding of the link between top management team aspects on the one hand and firm performance and growth on the other. The research task was to conceptualize and explore the relationship and the conditions of emergence and existence of the relationship between team aspects and firm performance and growth. The study was primarily concerned with understanding the circumstances of team and business formation in growth businesses. It focused on entrepreneurial process and on the behavior of individuals in that process and concentrated on young, technology-based firms.

The study consisted of four essays, each of which made an additional contribution to the literature on the link between top management team aspects and firm performance and growth. The explanation of the link was taken to the multiple levels of analysis from the individual team member to the team and organization levels, and then to the industry, state and global market levels. The global market level was included in the analysis since the emergence, existence, and development of the relationships between team aspects and firm performance and growth in the sample/populations studied were found to be strongly dependent on the competitive conditions and competitiveness in the international/global markets. Institutional theory and analysis were used in theorization and conceptualization of the global level effects on the condition of the emergence and existence of the relationship between team aspects and firm growth on the sample or case level analysis.

In the first essay, the general models consisting of the effect of the resources, structures, and processes on firm growth and profitability were developed. Surprisingly, only the process model emphasizing the personal motivation of team members and their integration with the task was supported when sales growth was used as the dependent variable. On the other hand, the effect of the resource model on firm performance was supported when ROA was used as the dependent variable. The findings were logical in the sense that team motivational process issues are emphasized when high percentage growth is sought. Furthermore, prior experience - that is the team's prior industry and joint experience - is emphasized when profitability is achieved. However, weak support for the other models pushed the research to explore in greater depth and breadth the contextual issue, which may have a differentiating or moderating effect on the relationships. Since there are several studies that have not found a relationship between team aspects and firm performance and growth, it has also become important in general

to understand and conceptualize the conditions of the relationship between team aspects and firm performance and growth as it emerges and exists.

The second essay explored whether the intervening effects of the venture creation context, specified as industry branch, firm size, and perceived product innovativeness, contribute to our understanding of the link between group and organizational growth. The findings of the study gave some support for the hypothesis, while at the same time they raised some strong counter-arguments. The general notion was that the contextual variables brought some additional explanation to the link between team aspects and firm performance and growth. Based on the findings, we could argue that in the case of small and innovative firms the greater the team experience and heterogeneity and the greater the intensity of the processes the greater were both the percentage sales growth and ROA. On the other hand, in mature industries, medium-sized companies, and moderately innovative companies, team aspects made no significant difference for sales or profitability. These findings are consistent with the prior literature, which argues that team resources, structures, and processes are important and make a difference especially in innovative conditions, in the early phase of venturing processes, and in young emerging industries. It is important to interpret that finding right, however. For example, Carton and Amason (1999) found that an overly large and heterogeneous team poses risks in the early stage of the venturing process, especially in the case of new innovative products and emerging industries when the product and market are not yet ready. In these cases the costs of a team may easily exceed the benefits.

The findings of the second essay prompt the question of why there is not a statistically significant relationship between team aspects and firm performance and growth when the company size exceeds 50 employers. Do teams with certain characteristics become standard above a certain size? Should more fine-grained issues regarding the qualities of teams be studied to identify differences in performance and growth? Does this have something to do with Penrose's firm production opportunity set (POS) discussed by Lockett et al. (2009)? Does it have something to do with international competition and competitors? Prior literature suggest that firm managers will find it increasingly difficult to maintain a high rate of organic growth from one period to the next because firms that have exhibited high organic growth rates in the past will have already harvested the closer and easier growth opportunities. In order to sustain a strategy of organic growth, firms need to search further from their existing operations. However, due to path dependence and associated organizational rigidities, the pursuit of growth opportunities in new fields of activity is inherently costly and difficult.

Essay three suggested that in addition to the conditions of innovativeness and newness of the firm, team aspects have to match the strategic orientation adopted by the firm. The moderating effects of strategic orientation on the effects of team diversity and the affective commitment of team members to firm growth were explored. However, the results gave no support for the relative independence of the strategy context together with team aspects of providing a context for determining partial success. The study suggests that a demanding strategy (a strong entrepreneurial orientation or strong marketing orientation) does not necessarily need more heterogeneous teams in order to be successful. The explanation might be that the strong marketing and entrepreneurial orientation calls instead for team members with similar backgrounds and mindsets in order to ensure strong support for the strategy chosen. Nevertheless, some diversity in experiences and knowledge might be beneficial for the successful process. More fine-grained measures were needed to analyze any diversity needed within a particular strategic choice or orientation.

Essay four significantly broadened the framework of the study. It became obvious during the research process that the context of institutions and meaning had to be included in the analysis to explain both the condition of the existence of the phenomena of business ventures and entrepreneurial teams and the relationship between team aspects and firm performance. The starting point of this essay was the unexpected results of the previous essays of this thesis. Why were team demography, resources, structures and processes not strongly linked to firm performance and growth in the sample studied? The results prompted further questions: was the sample biased, were there still some additional issues which should be included in the analysis/equation, did the hypotheses not hold in the Finnish context, or are the hypotheses no longer relevant in the current accumulated conditions of business organizations? It seemed essential to be able to answer those questions before any suggestions for further research and practical managers could be given. The additional thematic and open-ended interview study was carried out in the same population and sample studied. The purpose of the study was to understand in more depth the conditions of business organizations and teams with particular demographies, resources, structures, and processes as they emerge and develop and especially to understand the emergence and existence of the link between team aspects and firm performance and growth as part of the development of competitive conditions.

The interviews and archival data of the companies sampled raised the emerging and developing international competitive conditions as an additional central issue

influencing the emergence and existence of the relationship between top team aspects and firm growth. Even in the domestic market, success seemed to depend on those international conditions. On the one hand, the conditions seemed to provide great opportunities, but on the other, they seemed to pose considerable challenges for the success of firms. Foreign companies (often US-based) seemed to have a great influence on the competitive conditions and conditions of performance and thus also on the emergence of the relationship between top team aspects and firm performance in the sample/population studied. Great differences were identified in the strategy, operations, and organizational behavior of foreign companies compared with their Finnish competitors. These differences in behavior, organization, and development seemed to originate in the different initiation and growth conditions of those companies.

Further interpretation and reasoning of the study results led us to the more deep analysis. We drew from institutional theory and analysis, which provides a dynamic framework for understanding the conditions of organization, performance, and relationships. Institutional theory argues that in terms of understanding the organization, performance, and relationships, it is important to identify and understand to which institutional/physical developmental condition the emergence, existence, and meaningfulness of the studied phenomena, organization and relationships are related and what is the position of the sample/population or case studied within this institutional/physical development. The study hypothesizes how accumulated institutional conditions and developmental settings and position of a sample/population within them provide further explanation for a particular organization and the emergence, and existence (or non-emergence and non-existence) of the relationship between top team aspects and firm performance.

The institutional framework developed in the study provided new insight into the organization and the emergence and existence of the relationship between team aspects and firm performance and growth. The framework also provided a broader framework for understanding the constructs/models suggested in the earlier essays. The institutional analysis may provide some additional explanation about whether, when, how, and why some particular team resource, structure, or process model has an effect on organizational performance and growth. For example, if the institutional position of a sample or case is weak in terms of strengthening institutions and cognitive frames of reference, the resources, structures, and processes may not have strong positive effects on the success and growth of the organization.

The study suggested that institutional analysis may provide new insights into the process of organization and the emergence and existence of the link between top management team aspects and firm performance – and thus, the link between top management team demography, process, and organizational performance. However, further development of the framework and its concepts is needed.

7.1 Theoretical contributions

The main theoretical contributions of this dissertation thesis are a broader institutional framework for understanding and explaining particular organizations and the emergence and existence of the relationship between top management team aspects and firm performance and growth on the sample/population level or on case level. Institutional developmental settings and position within it may explain systematic differences in samples/populations in terms of the quantity and quality of the relationships between team aspects and firm performance. The framework calls for more fine-grained analysis of the institutions of meaning that have emerged and developed in order to explain the phenomena of entrepreneurship and teams and the relationships between them. The framework helps us to understand the conditions of organization and relationships as they emerge and exist and also helps us to understand and interpret the findings as well as the “missing” findings of our models suggested in essays one, two, and three. The framework also helps to interpret and explain the conflicting or missing findings of prior research and to establish better hypotheses for further studies. For example, the strong institutional position of an idea and the persons carrying it forward may explain the ability/capability to form a complementary and on the other hand heterogeneous, high-performance team that is positively related to firm growth. Vice versa, in the case of the weak institutional position of an idea and of the persons carrying it out, there will be difficulties in forming a complementary and heterogeneous team that would perform well internally as a team and externally in the market, thereby contributing to firm growth.

The key concepts of this framework are institutional development and the position of a sample/population studied within this development. Although the concepts are in an early stage of their development, the study suggests that they could extensively improve the current valid frameworks to understand the organization and relationships. In the current study the framework was aimed at furthering our understanding of the entrepreneurial organization and the emergence and existence

of the link between top management team aspects and firm performance and growth. The framework could also be used in other organizational contexts to facilitate understanding of the quantity and quality of particular organizations as well as the particular relationships related to these organizations.

Related to the theories of growth, managerial limits, and for example to Penrose's productive opportunity set (POS) mentioned by Locket et al. (2009), the institutional framework and analysis may provide new insights into issues that may help to sustain growth. Individuals, groups of individuals, and organizations (as well as fields, regions, and societies) that are close to the strengthening institutions and institutional development are able to sustain their POS. Vice versa, individuals, groups of individuals, and organizations (as well as fields, regions, and societies) that are in a weak position in institutional development have a lower POS and their POSs do not allow high organizational growth. Related to the issue of relaxing the units of analysis for explaining growth (or non-growth), institutional theory may be especially apt.

As far as the motivational issues of growth are concerned, we argue that if individuals, groups of individuals, organizations (as well as fields, regions, and societies) are not able to maintain or achieve a strong position in the development of institutions and meaning, they will not experience competence and strong support from others and not be motivated for an increasing level of ambition within that development.

The second theoretical contribution is the general model developed in order to conceptualize the effects of teams on firm outcomes and growth. The model consists of five alternative models to illuminate the link between venture/management teams and firm growth. The models concern the effects of resources, structures, processes, and the task leadership of teams and also the effects of the personal integration of team members with the task process. The models help us to identify the aspects of which the effects of teams on firm performance and growth are based. Is it the amount of resources or is it the particular organization of those resources?

The third theoretical contribution concerns the intervening and moderating effects of contextual issues specified as industry branch, firm size, perceived product innovativeness, and strategic orientation. Especially firm size, product innovativeness, and newness of industry significantly improved the model. On the other hand, the results on the intervening effect of strategic orientation on the relationship gave no

support for the relative independence of the strategy context together with team aspects providing a context for determining partial success. However, related to the main contribution of the study mentioned above, the intervening and moderating effects of contextual issues such as industry branch, firm size, perceived product innovativeness, and strategic orientation have to be evaluated and studied in a more fine-grained way within the accumulated institutional conditions and developmental settings.

7.2 Practical implications

Recent literature of growth has emphasized the role of top management in providing the limits of firm growth. It has been indeed argued that the impact of top teams on firm survival and growth is greater in new companies than in old established firms. A number of studies have confirmed that successful ventures are often established by groups of individuals rather than by a single person. Further studies on top management teams have confirmed the link between management teams and organizational performance especially in high-velocity conditions. Management teams are also linked to organizational innovation, strategy, and strategic change. The accumulating knowledge on the importance of teams has led venture capitalists and government agencies to rely heavily on teams and team building as the guarantees of success and growth of new firms.

The primary purpose of this study was to explore the link between aspect of top management and firm growth in young technology-based companies. From the practical point of view the aim of this study was to provide implications for practitioners regarding how team and team building can be used in practice to boost firm growth and growth companies. The research task was to conceptualize and explore the relationship and the conditions of emergence and existence of the relationship between team aspects and firm performance and growth. The theoretical rationale underlying this research setting was that managers at the top of the organization have the greatest influence on the choices and organization of the firm. Furthermore, their backgrounds, experiences, and cognitive frames of reference are reflected in their behavior and decisions. Top managers (and their backgrounds) can also have another direct influence on firm performance since the legitimacy of the firm may be evaluated via their managers and their backgrounds. Thus, it can be concluded that if the top managers have the appropriate backgrounds, experiences, knowledge, skills, and cognitive frames of reference for the growth of the firm, the firm will grow (based on both its efficiency and legitimacy). This begs the question of what are the appropriate backgrounds,

experiences, knowledge, skills and cognitive frames of reference of top management that are needed if the firm is to grow? This line of questioning may also be contextualized as to "... the particular accumulated circumstances of growth."

Based on the above arguments, practitioners are primarily interested in answering the question of how to form and design an effective top management team to support the growth of a company, how to attract potential candidates, who to include, who not to include, how to include, how to operate as a team, and how to make the most out of teams. Whilst a contingency perspective will undoubtedly suggest that there is no single best way to form and design a top management team, this dissertation may offer some general managerial recommendations.

The results of the study suggest that the issues of top management team knowledge, skills, experiences, and networks are undoubtedly relevant. In addition, the team structure and the complementarity of skills on the one hand, and the heterogeneity of skills needed in a particular context and on the other, are the relevant issues to take into account when teams are formed for the pursuit of team growth. Based on the findings we could argue that in the case of small and innovative firms the greater the team experience and heterogeneity and greater the intensity of processes, the greater were both the percentage sales growth and ROA. The results suggest that at least in the sample and conditions studied, the small and innovative companies, which have been able to create and achieve an entrepreneurship process that has attracted and integrated a complementary team into the process, were more successful than those small companies which were not able to do so. This could also be interpreted to mean that among the small firms and innovative firms, those companies that are able to attract and integrate a compatible team are going to be more willing to grow and capable of growth. The results of the cross-sectional study do not tell, however, how large these small firms are capable of growing.

In mature industries, medium-sized companies, and moderately innovative companies team aspects made no significant difference in sales or profitability. This may mean that in those conditions, for example above a certain firm size, an increase in team size or heterogeneity does not necessarily mean greater success. This result could be interpreted in two ways. There are companies who seek to grow internationally, but although they have made improvements in their team, no immediate success is achieved. On the other hand, there are companies that have decided to operate domestically. In familiar home markets and mature industries there is no need for an extensive management team to achieve immediate success. This is the case, especially

when an innovation that has already made a breakthrough elsewhere is imported to domestic markets. In those conditions success can be achieved with a moderate team size and moderately heterogeneous teams. These findings are consistent with prior literature, which argues that team resources, structures, and processes are important and make a difference especially in innovative conditions, in the early phase of venturing processes, and in young, emerging industries. On the other hand, in medium-sized companies and mature industries and with less innovative products, team structures are not so closely related to firm growth.

It is important to interpret these findings with care, however. Firstly, team heterogeneity is a very sensitive aspect. In general, heterogeneous teams seem to be positively related to firm growth (i.e., those entrepreneurship processes which are able to attract and achieve and integrate a heterogeneous team are related to ventures with more potential). Nevertheless, too much heterogeneity in the early stages of business and team formation, especially when there is no common understanding of the markets, may hinder the team and business process and turn out to be negatively related to the success of the firm.

Secondly, the importance of team process issues for firm performance was emphasized in the findings. The process issues are, however, problematic: can they be consciously initiated and achieved or are they more the result of the fit of the particular resources and structures within the particular condition and context, or both. Successful team processes may be strongly related to successful entrepreneurship process. Successful entrepreneurship and team processes, on the other hand, explain success in integrating the appropriate resources and structures to contribute to the growth of the firm within the particular circumstances.

The institutional framework suggested by essay four provides a broader framework to interpret the findings of the cross-sectional survey study and to make implications for practice. The institutional theory argues that phenomena, organizations, performance, and relationships do not emerge and exist in a vacuum, and are always related to some accumulated institutional/physical developmental condition and setting (Scott, 2001). This means that by analyzing those institutional and physical conditions we may be able to better understand and explain specific instances of organization, teaming, and performance. On the other hand, the institutional theory and analysis may also provide us with practical and realistic hints on how to behave in the particular accumulated institutional and physical conditions, and settings, in order to contribute to the institutions and institutional opportunities, and perform in a high level in organization

and teaming. This assessment and suggestions for optimal/maximal behavior and performance can be made from the perspective of single individuals (assuming that the others are not going to change their behavior), and groups, organizations, industries, and societies (i.e., assuming that they are also going to change their behavior, thereby providing a different collective condition for organization and performance).

The results of essay four suggest that specific organization and team formation and relationships in the sample and case level were related to the specific worldwide institutionalization of consumer- and market-drivenness centered in the US and other Western countries. On the other hand, weak involvement in and contribution to this institutional and physical development may be seen as inconsistency and meaninglessness within that behavior and thought and thus to represent weak performance in terms of the organization, teaming, and development made possible by the accumulated institutional and physical conditions. The inconsistency and weak institutional position within the institutional development also explains the lack or the weakness of the systematic relationships between top team aspect and organizational performance in the sample studied. By weak institutional fit we mean that the behavior, individual or collective, is not seen as contributing to and strongly carrying out the emerged strengthening intentions, acceptance, values, beliefs, norms, regulations, agents, and contents.

The accumulated institutional setting and the weak position of the sample/population within it may also explain why there seems to be a tendency towards domestic inward organization and growth and successful team formation. While there is some inconsistency in the strengthening international institutions, organization, and development, this means on the other hand, that there is strong consistency in one's own domestic institutions and organization, making Finnish entrepreneurs and managers necessary and attractive for the export operations of international companies for Finnish markets. In these conditions and settings, entrepreneurs targeting the domestic market and riding on internationally proven concepts feel a strong consistency and meaningfulness, enjoy support from others, and feel competent and motivated to carry the growth process forward. This may explain why the most successful and growing organizations in these accumulated institutional and physical conditions and settings seem to be those companies that consciously (or by accident) serve the own domestic markets. In them, team processes leading to the successful growth process are very probable. Inconsistency with respect to international markets may also explain why it is so important for Finnish companies to become acquired or at least financed by internationally recognized companies that guarantee the fitness/consistency of behavior

and thought (and symbolism) with respect to international (strengthened/strengthening institutions and physical) markets.

Identification of the strengthened institutions and institutional and physical conditions and settings and of the concrete position of the sample studied within them reveals the concrete challenges that face entrepreneurs seeking to pursue an international growth process, business developers and consultants seeking to support those processes, and for policy-makers seeking to establish programs and tools to support those processes. Finnish entrepreneurs, business consultants, policy-makers, and for that matter the entire population should share in and contribute strongly to recent institutional and physical development, which at least from the Finnish perspective emphasizes and enables extreme consumer- and market-drivenness, free markets that are international and consistent, and innovative and fluent capital markets. Such behavior would have a strong impact on the taken-for-granted beliefs, values, norms, regulations, and habits that run and empower organization and development. Although Finnish entrepreneurs, business consultants, and policy-makers have contributed to these institutions and institutional development, in terms of international institutional and physical development, their effort has been slight.

The institutional analysis may provide some explanation for the paradox of Finland (cf. Autio, 2009). Because of the current institutional developmental setting and the position of the sample/population studied within it, growth companies are vital. However, since there is some inconsistency with respect to internationally strengthened institutions, there is a lot of talk and formal action, but little real action and success. This inconsistency is reflected everywhere. Finnish firms and organizations carrying out or supporting growth processes do not appear eager to take the process forward since their habitual taken-for-granted behavior, which is widely shared in Finnish society, is inconsistent with the international strengthening context. This inconsistency may not be apparent at first sight. This is why a descriptive study, which does not analyze the shared institutions and meanings and the position of the sample/population studied within them in depth, may not recognize it.

In the end, we could generalize that successful individual and collective behavior, organization, and performance are closely related to the struggle for current widely held institutions and institutional opportunities. It is also important to recognize how and why the relevant behavior, knowledge, skills, and experience are closely related to the accumulated institutional conditions and settings and to the position of the sample/population studied within them. This means that institutional understanding is

one of the key elements of knowledge and know-how in terms of social aims, organization, and performance. To the question of what is the appropriate background, experiences, knowledge, skills and cognitive frames of reference required by top management in order for the firm to grow, we would argue that it is one which is strongly related to the strengthening institutions/physical and institutional developmental settings that makes such organization possible.

7.3 Limitations of the study

There are several limitations in this study. In particular, the study is based on a limited sample of firms from a high-velocity environment. Given the sample size, the research was limited in the number of independent variables that could be examined simultaneously. Moreover, the high multicollinearity between the variables decreased the validity of the results, especially when the intervening effects of the venture creation context were analyzed.

On the other hand, the thematic and open-ended interview study, which raised the issue of international markets and of the competitiveness in them as a central additional contingency for the relationship between team aspects and firm growth to emerge and exist, was based on the limited sample. In addition, the interview study was carried out between August 1999 and March 2000, the period that is known as the worldwide techno boom of 1990s. The US-based techno ventures and venture capitalists were especially active in the international markets at that time.

Moreover, the suggestions for the inclusion of the accumulated social, institutional and physical conditions and setting in the analysis were based on the limited sample of interviews. Also, the perceptions and observations of the differences between the social, institutional, and physical conditions underlying the initiation and development of organization between Finnish and the US companies were based on the limited sample of interviews representing entrepreneurs and managers who had experience in living and operating in both countries.

Finally, the description of the overall worldwide institutional and physical development and the description of the position of Finnish companies within that development were based on the very rough data and notions driven from the interviews and archival data. The description of the overall development as well as the position and contribution within it are only hypothetical and thus they do not

provide systematic evidence for the dependence of the link between team aspects and firm growth on accumulated institutional conditions and developmental settings and the position of the Finnish companies within them. A far more sophisticated conceptual framework and operationalization of the concepts are needed in order to evaluate the dependence of the quality and quantity of organizations and their performance and the emergence and existence of the link between team aspects and firm growth on the overall institutional and physical development and the position of the Finnish companies within them.

7.4 Suggestions for further research

A broader view is needed to obtain an understanding of the organizations, their teams, and their success and growth. Single variables and a narrow scope may even be misleading, especially when the underlying institutions, structures, and power-positions differ.

The study suggested that an institutional theory and analysis could improve our understanding of the organization, teaming and performance and the emergence and existence of the relationships between aspects of top management teams and firm performance. However, several aspects require further study.

Do the institutional developmental conditions and settings and the position of a sample/population studied within them really explain the quality and quantity of organizations and their performance and the emergence and existence of the relationship between top team aspects and organizational growth?

How can the institutional developmental condition and setting and the position of a case/sample/population within them be identified and measured reliably without extensive study? The institutional condition and setting and the position within it might even be identified on the single individual/case level by determining which phenomena, issues, organizations, actors and values, norms and regulations, agents and contents have been strengthened and institutionalized and recently become taken-for-granted, and where one actually stands in that condition.

The institutional theory also provides an interface where psychology, social psychology and the organization and development of the wider environment interplay. The theories of the expectancy-valence, the feeling of competence and control, and self-efficacy take

place in the accumulated “invisible” institutional conditions and settings and in the position within them. We must consider how to improve the persuasion and feeling of competence of individuals and groups within the accumulated and accumulating conditions.

The institutions and values of the society are crystallized in its top managers and political leaders. They represent and carry on the values of the system. They would not be at the top of their society if they had not confirmed its values and contributed to their development. On the other hand, when a society has the overall goal of being widely involved in international affairs and in the emergence of attractive new institutions, this is reflected in the behavior and values of top managers and leaders at the top. We need further study to determine whether this is actually so.

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Part Two: Essays 1, 2, 3 and 4

ESSAY 1: Handelberg, J. & Vyakarnam, S. (1999), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Five Models on the Impacts of Management Team on Performance, presented at the 19th Babson College-Kauffman Foundation Entrepreneurship Research Conference, University of South Carolina, Columbia, SC, USA, 13-15 May 1999.

ESSAY 2: Handelberg, J. & Vyakarnam, S. (2000), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Differential Effects by Industry, Firm Size and Perceived Product Innovativeness, presented at the 20th Babson College-Kauffman Foundation Entrepreneurship Research Conference, Babson College, Babson Park, Wellesley, MA, USA, 8-10 June 2000.

ESSAY 3: Handelberg, J. & Vyakarnam, S. (2001), Entrepreneurial Top Management Team Demography, Process and Organizational Performance: Moderating Effects by Strategic Orientation, presented at the 21th Babson College-Kauffman Foundation Entrepreneurship Research Conference, Jönköping International School of Business, Jönköping, Sweden, 13-16 June 2001.

ESSAY 4: Handelberg J. (2011) Entrepreneurial Top Management Team Demography, Process and Organizational Performance Aspects of Top Team and Firm Growth: An Institutional Explanation (unpublished)

Essay 1

ENTREPRENEURIAL TOP MANAGEMENT TEAM DEMOGRAPHY, TEAM PROCESS, AND ORGANIZATIONAL PERFORMANCE: FIVE MODELS ON THE IMPACTS OF MANAGEMENT TEAMS ON ORGANIZATIONAL PERFORMANCE

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ABSTRACT

The evidence obtained suggests that founding/management teams can make a considerable positive contribution to the success of firms. However, little is known about the constructs underlying the linkage between teams and performance. Drawing on a variety of literature, five alternative models are proposed to illuminate the link. These models concern the resource, structural, and processual effects of teams, and also the effects of the task leadership and of the personal integration of team members into the task process. A principal component analysis was performed to analyze whether the suggested model components can be identified. Regression analyses were then used to test the models with a sample of data from technology-based companies in a high-discretion, high-velocity environment.

Apart from the three process components suggested, two resource components and two structure components were also identified. The study found that the personal integration of team members into the task process had direct effects on percentage sales growth. It also found a direct effect of team resources on performance when ROA was used, although prior performance as a control variable explains most of the variation in both percentage sales growth and ROA. The results of the study suggest that besides various aspects of team resources, structures, and processes, more fine-grained variables concerning venturing contexts have to be taken into account for a better understanding of the link between management teams and organizational performance.

INTRODUCTION

A number of studies have confirmed that successful ventures are often established by groups of individuals rather than by a single person (Kamm et al., 1990). Further studies on top management teams have confirmed the link between management teams and organizational performance, especially in high-velocity conditions (Murray, 1989; Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992). Management teams are also linked to organizational innovation (Bantel and Jackson, 1989), strategy (Michel and Hambrick, 1992), and strategic change (Wiersema and Bantel, 1992). Despite growing evidence of the link between management teams and performance, relatively few efforts have been made to investigate the constructs underlying this linkage (Smith et al., 1994).

Keck (1997) identified three main streams of research to approach the relationship between management teams and performance. The first stream specifies processes within teams, for example (1) the social psychology tradition of focusing upon social integration and

communication as key predictors of group performance and (2) the group theory of defining team processes by focusing on task and maintenance functions.

The second stream links team structure to team process. Smith et al. (1994) suggest that the relationship between team structure, team process, and firm performance may be much more complex than originally modeled or assumed in previous work. According to Smith et al. (1994), there are three competing models of the effects of team structure on firm performance: (1) the demography model based on the direct effect of team structure on performance, (2) the process model based on the direct effect of the above team process and beyond the direct effect of team structure, and (3) the model of team processes as intervening variables.

The third stream relates top management team structure to environmental conditions such as uncertainty (Bantel, 1993), turbulence (Heblian and Finkelstein, 1993; Keck, 1997), munificence (Wiersema and Bantel, 1993), and high velocity (Eisenhardt and Schoonhoven, 1990).

The present study builds on all three of these streams of research. In addition to team demography we seek to examine the impact of the group's maintenance and task processes on performance. We seek to filter out some of the direct impact of various aspects in the complex relationship between team and performance. In addition, we control for the effects of environmental conditions on the link by limiting the study to younger technology-based companies in high-velocity conditions. Drawing on previous studies, five alternative models are proposed to capture the management team's effects on performance. The models concern the direct (independent) effects of group resources, structure, maintenance process, task behavior, and also of the effects of the personal integration of team members into the task process. Our key performance measures are percentage sales growth and return on assets.

FIVE MODELS OF THE IMPACT OF MANAGEMENT TEAMS ON ORGANIZATIONAL PERFORMANCE IN ENTREPRENEURIAL FIRMS

Resource effect model

The first model suggests that the resources, knowledge, and skills of the team affect organizational performance directly. This model is based on the argument that basic resources, knowledge, and skills are needed if firms are to operate successfully and as teams. Capturing the resources needed for success is seen as the function of the group. Six aspects of the management team's basic resources will be analyzed as they relate to firm performance and growth: the team's industry experience (Eisenhardt and Shoonhoven, 1990), the team's work experience (Timmons, 1994), the complementarity of functional backgrounds (technology/marketing) (Cooper and Bruno, 1977), team size (Eisenhardt and Shoonhoven, 1990), and the team's joint experience/team tenure (Roure and Keeley, 1990; Katz, 1982).

Structural effect model

The second model is based on the assumption that there are compositional or demographic effects resulting from the specific demographic distribution and that these effects are more than the sum of the effects of the individual-level variates. This means that the link between the team and organizational performance is not the resources themselves, but rather their structures.

Four aspects of the management team's structure will be included to the structural model as they relate to firm performance and growth: the team members' heterogeneity in functional backgrounds and experience (Zenger and Lawrence, 1989; Keck, 1997), variation in the

team's industry experience (Eisenhardt and Schoonhoven, 1990), and variation in the team's joint work experience and tenure (Keck, 1997), and variation in the level of education (Smith et al., 1994). Eisenhardt and Schoonhoven (1990) argued that some forms of heterogeneity are desirable for performance because they contribute to team creativity, especially in high-velocity environments.

Group process model

The third model suggests that top management team's process will directly affect performance. This process model predicts that both demography (group resource and structural models) and process will be directly and independently related to organizational performance, with process accounting for the variation in performance that demography leaves unexplained. The rationale for the process model is derived from social psychology research. This literature has identified social integration and communication as two key predictors of group performance (Cartwright and Zander, 1968; Shaw, 1981; McGrath, 1984). They have been included in the underlying theory in previous studies of top management teams to explain relationships between specific measures of team demography and organizational performance, although they were not measured (e.g., Murray, 1989; Eisenhardt and Schoonhoven, 1990; Keck, 1991; Michel and Hambrick, 1992).

Three aspects of the management team's process will be included in the model: social integration within the team (Smith et al., 1994), communication frequency (Daft and Lengel, 1992), and communication informality (Shaw, 1982). There has been some controversy over whether these factors influence team performance positively or negatively (Smith et al., 1994). We will suspend judgment for the present.

Group task leadership model

The fourth model proposes that it is not a matter of the resources themselves, nor of their structures (heterogeneity or variation) or processes, but of how effectively the resources are organized for the achievement of a particular task. This model concerns the leadership function of the group.

Two aspects of management team's task leadership will be analyzed as they relate to firm performance and growth: the perceptions of team members regarding the clarity of various issues concerning task behavior (Gladstein, 1984) and their perceptions about the degree of shared understanding within the management team (Matthes, 1992).

The model of personal integration into the task

The fifth model suggests that besides the direct effects of resources, structures, processes and task leadership, there is an additional direct effect on performance due to the personal integration of team members into the task process. The ultimate value of high-quality decisions depends to a great extent upon the willingness of managers to cooperate in implementing those decisions (Guth and MacMillan, 1986; Woolridge and Floyd, 1990). But the limited evidence that exists suggests that processes deemed to lead to the highest-quality decisions may adversely influence the affective responses of team members to the process (Amason, 1993). Strategic decision-making teams whose members have fully aired their views in reaching decisions are at times left uncommitted to the decisions and disinclined to work together in a cooperative manner in the future (Schweiger et al., 1986). A more complete view of effective decision processes should therefore consider not only the quality of the decisions, but also the impact on the affective responses of team members of processes such as commitment to the decision, attachment to a team, and trust in its leader (Korsgaard et al., 1995).

Three combined aspects concerning the personal integration of team members into the task will be analyzed as they relate to performance: the commitment to the task (Korsgaard et al., 1995), the degree to which team members perceive their motivation toward the task more as intrinsic controversy to extrinsic (Ryan, 1993; Deci and Ryan 1985, 1991; Deci et al. 1981, 1989), and the degree to which team members have internalized the values and goals of the task process to their core self (Ryan, 1993; Deci and Ryan 1985, 1991; Deci et al. 1981, 1989).

METHOD

The target population for the study consisted of top management teams from a set of technology-based companies founded in Finland between 1983 and 1995. Two industries were included in the study: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722).

The names of the firms were first identified from a database consisting of all the companies in the industry in Finland. 512 companies employing more than five people in the selected industries were identified. The number of companies reduced to 450 when the subsidiaries of other companies with clearly no strategic decision-making of their own were left out.

A letter briefly introducing the study was sent to the CEOs of the companies, informing them that they would be contacted by telephone during the coming week to ascertain their willingness to participate in the study. They were also given the contact information of the researcher and informed that they could contact him directly without waiting for the call. The introductory letters were sent in four phases or waves; the aim was to complete at least one round of calls to those companies within a week.

After the initial contacts (letters and a telephone conversation), the survey was sent to 111 companies and 430 members of their top management teams. To operationalize the teams, we asked each CEO to identify the members of their "real" top management team. The average number of team members per firm in the sample supplied by the CEOs was 3.9.

Responses were received (after three reminders for some of the companies; an additional questionnaire packet was enclosed with the second reminder) from 64 team managed companies (58% of those received the packet). Unfortunately, however, responses from 17 team companies did not fulfil our criteria: (only one individual response from a team (14); individual responses from only part-time board members, but not from full-time managers (1); and individual responses that were not fully completed (2)). The final team sample reduced to 47 teams. Altogether 147 responses out of 172 supplied by the CEOs of the companies were received making the average per team response 3.1 (Table 1).

Table 1
Team Sizes and Responses

Team Size as Supplied by the CEO		Number of Responses Provided	
Teams with 2 members	16	Teams with 2 responses	25
Teams with 3 members	12	Teams with 3 responses	7
Teams with 4 members	5	Teams with 4 responses	7
Teams with 5 members	7	Teams with 5 responses	3
Teams with 6 members	4	Teams with 6 responses	4
Teams with 7 members or more	3	Teams with 7 responses or more	1
Number of teams	47	Number of teams	47
Number of team members	172	Number of respondents	147
Average team size	3.7	Average per team response	3.1

Measured in sales, the companies in the sample ranged in size from \$400,000 to \$48 million. The three biggest companies with sales of \$728, \$271 and \$113 million were analyzed separately from the sample. The companies in the study were engaged in the same kind of businesses as the firms included in the final sample. The companies that chose not to participate in the study were engaged in the same kinds of businesses as the firms included in the final sample. A preliminary one-way analysis of variance on the number of employees indicated that in terms of size the non-responding firms were not significantly different from the responding firms.

Variables

Team resource variables: the team's averaged industry experience, the team's averaged joint work experience, the team's averaged team tenure, the team's averaged organizational tenure, the team's averaged level of education, and team size.

Team structure variables: variation in industry experience, variation in joint work experience, variation in team tenure, variation in organizational tenure, variation in educational backgrounds, and heterogeneity in functional backgrounds. Functional heterogeneity was measured in terms of Blau's (1977) heterogeneity index: $(1 - Z_i^2)$, where i is the proportion of the group in the i th category. A high score on this index indicates variability in functional backgrounds among team members or functional heterogeneity; a low score represents greater functional homogeneity.

Team process variables: social integration within the team (nine item question pattern adapted from Smith et al., 1994) (alpha 0.85), communication frequency (two items) (alpha 0.63), and communication informality (two items) (alpha 0.59).

Task leadership variables: the team members' perceptions about the clarity of various issues concerning task behavior (a six-item question pattern: "To what extent are the following issues clear to you? Long term goals, short term goals, company values....") (alpha 0.86) and team members' perceptions about the degree of shared understanding within the management team (seven item question pattern "To what degree is there shared understanding on the following issues in the top management?" Long-term goals, short-term goals, company values ...) (alpha 0.87).

Variables concerning personal integration of the team members into the task: a six-item question pattern concerning the commitment to the task (e.g. "I am ready to expend a lot of effort in developing this company") (alpha 0.70), internalization of task i.e., the degree to

which team members perceive their motivation toward the task as intrinsic rather than extrinsic (four items) (alpha 0.67), internalization of values, i.e. the degree to which the values and goals of the task process are internalized to the self, (two items) (alpha 0.75), internalization of vision, i.e., "The development of the company provides an attractive direction (vision) for my personal development" (one item) and personal drive (five items) (alpha 0.82).

Organizational performance. Two measures were included: the percentage increase or decrease in sales and return on assets (ROA).

Control variables. In keeping with previous studies of performance, firm size (log number of employees), past firm performance (one-year growth as the percentage increase or decrease in sales and ROA calculated over a two-year period (t-2) to average out temporary shifts, industry growth rate (indicated by respondents), and degree of new competitive entry (indicated by respondents) were all added as control variables.

Analysis

A principal component analysis was performed to analyze whether the suggested model components can be identified. Regression analyses were then used to test the models with a sample of data from technology-based companies in a high-discretion, high-velocity environment.

In addition to separate principal component analyses in each element of the model, the analysis was performed for all of the independent variables of the model. The analysis confirmed that similar components separate from each other.

Regression analyses were used to examine the direct effects of the five models on performance. One hierarchical regression model was used with each of the dependent variables: the percentage change in sales and return on assets (ROA). In each case, control variables, group resource variables, group structural variables, group process variables, task leadership variables, and personal integration variables were entered in the equation. After entering the control variables, we examined the relative direct contribution of each model.

RESULTS

The five components suggested received partial support in the principal component analysis. Instead of one resource effect component, two resource components were identified. Instead of one structure effect component, two related components were supported. The component 'personal integration of team members into the task' was supported and also the component 'task leadership' was supported with the exception that the variable 'social integration within the team' was also included in this component. Then the component 'team process' consisted only of communication frequency and communication informality. We renamed the three process components P1, P2, and P3. The five components identified accounted for approximately 70 percent of the variation within each category (see Tables A1, A2 and A3 in Appendix).

The first resource component (R1) included industry and joint experience and team and organization tenure. The second resource component (R2) represents team size and level of education. We labeled the former component 'context-specific resources, knowledge, and skills' and the latter 'non-context specific (generalist) resources, knowledge, and skills.'

The first structural component (S1) included the variation in industry and joint experience and the variation in team and organizational tenure. The second structural component (S2) consists of the variation in education level and the functional heterogeneity. We labeled the first component 'the variation in context specific knowledge, and skills' and the second 'the variation in non-context specific (or scholarly) knowledge, and skills.'

The first process component (P1) was made up of five items containing the clarity and shared understanding of goals, social integration, and internalization of the task and values. It was labeled 'fluency of group behavior.' The second process component (P2) represents personal drive and integration of team member into the task process and was labeled 'personal drive.' The third process component (P3) describes frequency and informality of team communication and was named 'communication informality.'

Table A4 (Appendix) reports the means, standard deviations, and correlations for the variables in this study. Tables 2 and 3 report the results of the hierarchical regression analyses with percentage sales growth and ROA as the dependent variables. These equations were used to assess the direct effects of five (six) aspects on performance.

Table 2 presents the results for the relationships between six aspects and percentage sales growth. There is some support for the fifth model, which suggests that there is a direct effect on performance caused by the personal integration of team members into the task process categorized as 'process effect 2' (Beta = .243; $t = 1.797$; sig. = .081). Also, the resource effect model 1, 'context specific resources, knowledge, and skills' received some slight support (Beta = .258; $t = 1.601$; sig. = 0.119). Among the control variables, averaged previous two-year growth has a significant direct effect on percentage sales growth (Beta = .671; $t = 4.893$; sig. = .000).

Table 2. Results of regression analyses for hypothesized models with percentage sales growth (N=47)

Model	Standardized Coefficients Beta	t	Sig.
Controls			
Sales growth (t - 2)	.671	4.894	.000***
Firm size (# of employees)	-.136	-.943	.352
Firm age	.211	1.476	.149
Entry	.199	1.587	.122
Industry growth	-.005	-.035	.360
Resource component R1	.142	.830	.412
Industry experience			
Joint work experience			
Team tenure			
Organization tenure			
Resource component R2	-.063	-.448	.567
Team size			
Level of education			
Structure component S1	.258	1.601	.119
Variation in industry experience			
Variation in joint work experience			
Variation in team tenure			
Variation in organization tenure			
Structure component S2	-.130	-.902	.373
Functional heterogeneity			
Variation in level of education			
Process component P1	.089	.693	.493
Clarity of goals			
Shared understanding of goals			
Social integration			
Internalization of task			
Process component P2	.243	1.797	.081+
Internalization of vision			
Commitment			
Personal drive			
Process component P3	.013	.086	.932
Communication frequency			
Communication informality			

Adjusted R Square .480

F = 4.543***

d.f. = 34

Table 3 presents the results of the regression analyses for the hypothesized model with ROA (N=47). Only the resource effect model (Resource Component 1) is supported (Beta = .397; t = 2.289; Sig. = .028). Unexpectedly the structure effect model (Structure Component 2) is negatively related to ROA (Beta = -.292; t = -1.804; Sig. 0.080). The averaged previous two-year ROA as a control variable has a significant positive relationship to ROA (Beta = .674; t = 4.968; Sig. = .000).

Table 3. Results of regression analyses for a hypothesized model with return on investment (N=47)

Model	Standardized Coefficients Beta	t	Sig.
Controls			
ROA (t - 2)	.674	4.968	.000***
Firm size (# of employees)	.063	.422	.676
Firm age	.067	.425	.673
Entry	.209	1.728	.093
Industry growth	-.179	-1.197	.240
Resource component R1	.397	2.289	.028**
Industry experience			
Joint work experience			
Team tenure			
Organization tenure			
Resource component R2	-.054	-.356	.724
Team size			
Level of education			
Structure component S1	.224	1.337	.190
Variation in industry experience			
Variation in joint work experience			
Variation in team tenure			
Variation in organization tenure			
Structure component S2	-.292	-1.804	.080+
Functional heterogeneity			
Variation in level of education			
Process component P1	.070	.515	.610
Clarity of goals			
Shared understanding of goals			
Social integration			
Internalization of task			
Process component P2	.147	1.050	.301
Internalization of vision			
Commitment			
Personal drive			
Process component P3	.244	1.489	.146
Communication frequency			
Communication informality			

Adjusted R Square .426

F = 3.850***

d.f. = 34

DISCUSSION

Both academics and practitioners working with small- and medium-sized businesses have emphasized the importance of management teams for the success of firms. However, little is known about the constructs underlying the linkage between teams and firm performance. Five alternative models were developed and tested to gain a deeper understanding of the relationship between teams and the organizational performance of young firms in high-velocity conditions.

The first model, which suggests that there is a direct effect of the resources, knowledge, and skills of the team on organizational performance, was supported when ROA was used as the dependent variable. Slight support was also found when percentage sales growth was used as the dependent variable. This model is based on the argument that basic resources, knowledge, and skills are needed in order to be able to operate successfully and as a team in the market. Capturing the resources needed for success is seen as the function of the group. These findings are consistent with the research stream, which claims that team demography is a critical determinant of organizational outcomes (Pfeffer, 1983) (because of its effects on more fine-grained team process variables).

Little support was also found for the team process model (the fifth model) when percentage sales growth was used as the dependent variable. The fifth model suggests that besides the direct effects of resources, structures, processes, and task leadership, there is an additional direct effect on performance caused by the personal integration of team members into the task process. The ultimate value of high-quality decisions depends to a great extent upon the willingness of managers to cooperate in implementing those decisions (Guth and MacMillan, 1986; Woolridge and Floyd, 1990). Strategic decision-making teams whose members have fully aired their views in reaching decisions are at times left uncommitted to the decisions and disinclined to work together in a cooperative manner in the future (Schweiger et al., 1986). A more complete view of effective decision processes should therefore consider not only the quality of the decisions, but also the impact of such processes on the affective responses of team members such as commitment to the decision, attachment to a team, and trust in its leader (Korsgaard et al., 1995). This finding is consistent with the process view (Smith et al., 1994), in which the process variables directly affect performance and contradicts Pfeffer's (1983) contention that process measures can be dismissed because they account for little of the variation in outcomes.

Unexpectedly, the structure effect model consisting of team functional heterogeneity and variation in the level of education turned out to be negatively related to ROA. The negative relationship between heterogeneity of experience and return on investment may be due to the fact that teams with diverse levels of experience encounter conflict in decision-making, requiring greater coordination and monitoring by the CEO and thereby delaying the team's ability to act (Smith et al., 1994). Ancona and Caldwell (1992) specifically suggested that negotiation and conflict resolution skills are necessary to offset the natural differences that stem from diverse experience.

The team resource component (the team size and level of education) was negatively, but not significantly related to both percentage sales growth and ROA. Consistent with Seashore (1977), the results suggest that the larger the team, the less likely members are to get along. To counter the size effect, larger teams may resort to more formal communication. Hence team size indirectly detracts from performance through negative effects on informal communication and social integration, possibly because size creates distance among team members, thereby inhibiting their interaction.

The team structure component (variation in industry experience, variation in joint work experience, variation in team tenure, variation in organization tenure) was positively

associated with both percentage sales growth and ROA. The relationship, however, was not significant.

The team process component (clarity of goals, shared understanding of goals, social integration, internalization of task) surprisingly has a very weak positive relation to both growth and profitability. Similarly, the process component (communication frequency, communication informality) showed a slight positive association with firm growth.

Outside the scope of the aspects of top management teams, prior performance as a control variable had the most significant positive relationship with growth and profitability. The averaged previous two-year ROA as a control variable had a significant positive relationship to ROA (Beta = .674; $t = 4.968$; Sig. = .000). Similarly, the averaged previous two-year percentage sales growth had a significant direct effect on percentage sales growth (Beta = .671; $t = 4.893$; sig. = .000). This raises many questions. Firstly, are the rough aspects of top management teams too general to make a difference between successful and less successful firms? Secondly, was the sample not homogenous enough in terms of industry and market conditions and conditions related to developmental phases of the firm and other contextual issues of their businesses? That would mean that the noise of the other issues hides the statistical relationship to be identified between aspects of team and firm growth. Third, has the positive effect of the team ceased to exist since all the financial backers and investors expect the team to be formed and exist, even though the other conditions necessary for a successful business to emerge and grow do not exist? Fourth, do the demography issues rooted in and related to particular cultural and historic context provide the good experience, knowledge, networks, and resource base for competition in the market, which is necessary for becoming increasingly global?

As with any study there are certain limitations. In particular, the study is based on a limited sample of firms from a high-velocity environment. Given the sample size, the research was limited to the number of independent variables that could be examined simultaneously. In addition, by focusing on a sample of firms from a high-velocity environment, we can make only limited generalizations about the impact of exogenous contextual variables.

A particular strength of this study is its focus on group dynamics and team process at the top. Although researchers have long recognized the importance of the topic, most have taken a relatively coarse-grained approach by emphasizing team demographics and inferring process relationships. Direct measurement of process variables has been by-passed in earlier studies, perhaps because it is so challenging to obtain such from top-level executives. The finding that team process accounts for variability left unexplained by demography highlights the need for more such process research in addition to research on the contextual factors related to those processes.

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APPENDIX

Table A1. A Principal Component Matrix of Direct Resource Effect Variables

	Component	
	R1	R2
∪ Industry experience	0.841	0.072
∪ Joint work experience	0.806	-0.180
∪ Team tenure	0.886	-0.019
∪ Organization tenure	0.862	-0.007
∪ Level of education	-0.002	0.799
∪ Team size	-0.047	0.774
Eigenvalue	2.903	1.260

Proportion of Variance Explained – 69.39

* No other factors produced eigenvalues greater than or equal to 1

Table A2. Principal Component Matrix of Structure Effect Variables

	Component	
	S1	S2
∪ Variation in industry exp.	0.656	-0.396
∪ Variation in joint work exp.	0.870	0.159
∪ Variation in team tenure	0.921	0.077
∪ Variation in org. tenure	0.865	0.050
∪ Variation in level of education	-0.254	0.824
∪ Functional Heterogeneity	0.385	0.560
Eigenvalue	2.997	1.183

Proportion of Variance Explained – 69.67

* No other factors produced eigenvalues greater than or equal to 1

Table A3. A Principal Component Matrix of Process Effect Variables

	Component		
	P1	P2	P3
υ Clarity of goals	0.862	0.185	-0.200
υ Shared understanding of goals	0.891	0.105	0.021
υ Social integration	0.775	0.317	0.178
υ Internalization of task	0.682	0.228	-0.233
υ Internalization of values	0.557	0.445	0.042
υ Internalization of vision	0.416	0.742	0.020
υ Commitment to task/org.	0.396	0.777	0.106
υ Personal drive toward task	0.024	0.861	-0.295
υ Communication frequency	-0.211	0.062	0.799
υ Communication informality	0.109	-0.154	0.846
Eigenvalue	4.424	1.575	1.200

Proportion of Variance Explained – 71.98

* No other factors produced eigenvalues greater than or equal to 1

Appendix Table A4

Means, Standard Deviations and Inter-correlations (N=47)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. R1	0.00	1.00	1.000											
2. R2	0.00	1.00	.000	1.000										
3. S1	0.00	1.00	-.573**	.316*	1.000									
4. S2	0.00	1.00	.280+	.024	.000	1.000								
5. P1	0.00	1.00	.042	.021	.005	.477**	1.000							
6. P2	0.00	1.00	-.313*	-.126	.188	.013	.000	1.000						
7. P3	0.00	1.00	.088	-.485**	-.346*	.044	.000	.000	1.000					
8. Firm growth	28.09	29.25	-.180	.103	.284+	.088	.265+	.339*	.037	1.000				
9. Firm growth (t-1)	19.65	29.75	-.166	.099	.035	.374*	.132	.029	.129	.167	1.000			
10. Firm size	3.37	1.55	-.036	.530**	.225	.073	-.049	.055	-.546**	.092	.149	1.000		
11. Firm age	94.26	43.31	.443**	.162	-.098	.167	-.084	-.471**	-.028	-.238	.011	-.057	1.000	
12. Market growth	1.96	2.27	-.032	-.091	-.019	.110	.138	-.103	-.008	.393**	.170	.060	-.065	1.000
13. Market entry	17.35	11.92	-.186	-.025	.261+	.294*	.263+	.253+	.319*	.447**	.210	-.128	-.124	.057

Notes: + = p < .10 * = p < .05 ** = p < .01

Essay 2

ENTREPRENEURIAL TOP MANAGEMENT TEAM DEMOGRAPHY, PROCESS AND ORGANIZATIONAL PERFORMANCE: DIFFERENTIAL EFFECTS BY INDUSTRY, FIRM SIZE, AND PERCEIVED PRODUCT INNOVATIVENESS

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ABSTRACT

Despite the accumulating evidence, which suggests that the founding/management team can make a positive contribution to venture success, disagreement persists as to whether specific aspects of teams have positive or negative results on firm performance. This study builds on the conflicts in the literature and seeks to study whether the intervening effects of venture creation context, specified as industry branch, firm size and perceived product innovativeness, contribute to our understanding of the link between group and organizational growth. Drawing on recent research on entrepreneurial/management teams a model consisting of the team's resources and the structural and processual effects on performance was developed. Separate regressions were then performed for the model in subsamples representing a different context. Percentage sales growth and ROA were used as dependent variables. The overall hypotheses of the study suggested that the direct resource effects would have a positive influence on firm growth in mature industries and in medium-sized and moderately innovative companies. On the other hand, the structural and processual effects of a team on firm growth would be emphasized in young industries and small and innovative companies. The findings provided some support for the hypothesis while at the same time they raised some strong counter-arguments. For example, the resource component of the team was found to be positively related to the growth of small and innovative companies while almost no association was found between the aspects of team and firm growth in medium-sized companies. The results of the study have implications for research on both venture/management teams and their role in venture creation.

INTRODUCTION

A number of studies have confirmed that successful ventures are often established by groups of individuals rather than by a single person (Kamm et al., 1990). Meanwhile, several studies on top management teams have confirmed the link between management teams and organizational performance, especially in high-velocity conditions (Murray, 1989; Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992). Besides performance, the top management teams are linked to organizational innovation (Bantel and Jackson, 1989), strategy (Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992), and strategic change (Grimm and Smith, 1991; Wiersema and Bantel, 1992). Despite the accumulating evidence about the link between management teams and performance, disagreement persists as to whether specific aspects of the team have positive or negative effects on firm performance. Relatively few efforts have been made to investigate the constructs underlying the linkage (Smith et al., 1994).

Keck (1997) identified three main streams of research to approach the relationship between management teams and performance. The first research stream specifies processes within teams (Smith et al., 1994, representing the social psychology tradition; Ancona, 1989, representing the group theory tradition). The second research stream links team structure to team process (Smith et al., 1994). A third relevant research stream relates top management team structure to environmental conditions such as uncertainty (Bantel, 1993), turbulence (Hebl and Finkelstein, 1993; Keck and Tushman, 1993; Lant et al., 1992; Murray, 1989; Keck, 1997), munificence (Wiersema and Bantel, 1993), and high velocity (Eisenhardt, 1989; Eisenhardt and Schoonhoven, 1990; Smith et al., 1994). Overall, this research stream has demonstrated that firms attempt to match their teams to their environments.

The present study builds on all of these three streams of research. Drawing on our recent study (Handelberg and Vyakarnam, 1999) a model consisting of the effects of the team's resources, structure and process on performance was developed. The intervening effects of the venture creation context (industry branch, firm size and perceived product innovativeness) on the model were then hypothesized and tested in order to contribute to our understanding of the link between group and organizational growth.

THEORY AND HYPOTHESES

There are several complementary and overlapping views for explaining the emergence, survival, and growth of an organization in the market. Economists typically argue that the survival and growth of new firms depends on the efficiency of their production processes and organizational design (Williamson, 1985). New firms, which are established below the minimum efficient scale, must be able to achieve a certain level of efficiency of production and organizational process in order to survive. Sociologists (e.g., Granovetter, 1985) argue that the success of new firms depends not only on economic efficiency, but also on institutional approval (Hannan and Freeman, 1984). In particular, they argue that firm survival depends on the ability to establish cognitive and socio-political legitimacy (Aldrich and Fiol, 1994). In the discussion below of these two main approaches, the resource dependence theory, premised on the notions of scarce resources and coalition formation, suggests that effectiveness rests on the ability to control critical and scarce resources through favorable transactions with exchange partners. Ventures should seek either to decrease their dependence on the owners of these resources or to increase the dependence of others on them (Pfeffer and Salancik, 1978). More recently, Spender (1996) argues that since the origin of all tangible resources lies outside the firm, it follows that competitive advantage is more likely to arise from the intangible firm-specific knowledge which enables it to add value to the incoming factors of production in a relatively unique manner. Thus it is the firm's knowledge, and its ability to generate knowledge, that lies at the core of the theory of the firm (Spender, 1996). Common to all the different views of survival and growth of firms is that a particular combination of knowledge is needed to ensure the legitimacy and efficiency of the process. Following the dominant coalition (March, 1965) and upper echelons (Hambrick and Mason, 1984) traditions, which suggest that the managers at the top and their backgrounds, demography and structures have a great influence on the outcomes of their firm, the following hypotheses are developed to illuminate the link between the aspects of team and firm performance in specified contexts (see summary in Table A1 in appendix).

Group resources

The first element of the model suggests that there is an overall positive effect of the resources, knowledge, and skills of the team on organizational performance. This model is based on the argument that basic resources, knowledge, and skills, in addition to some level of group maturity are needed in order to be able to operate successfully and as a team in the market. Capturing the resources needed for success is regarded as the function of the group. Over the

past decade, several team resource issues have been linked to firm performance, including team size, level of education, industry experience, joint work experience (Eisenhardt and Shoonhoven, 1990), and team/organization tenure (Roure and Keeley, 1990; Katz, 1982). In this study we predict a positive link between team resources and firm performance in the mature industry and small and moderately innovative companies. Encouraged by our previous study (Handelberg and Vyakarnam, 1999) we do not, however, predict a relationship between group resources and firm growth in young emerging industries or small and innovative companies. Our argument is that in these contexts the success of the company is based merely on the innovative structure or effective process rather than on the amount of resources. In other words, the achieved structure and process issues are more important than the resource issues of the firm as the indicator/predictor of performance. In highly innovative contexts, a greater amount of resources may even hinder the innovation process (Keck, 1997), thus affecting the negative relationship between the model and firm growth.¹ Six aspects of the management team's basic resources mentioned above will be included in the analysis as they relate to firm performance and growth.

Hypothesis 1a: The "level" or the amount of resources in a team is related positively to firm growth and profitability in mature industries, medium-sized firms and firms producing only moderately innovative products.

Hypothesis 1b: The "level" or the amount of resources in team is related negatively to firm growth and profitability in firms producing innovative products.

Group structure

The second element of the model is based on the assumption that there are compositional or demographic effects resulting from the specific demographic distribution and that these are more than the sum of the effects of the individual-level variates. This means that it is not the resources themselves, but their structures, which explain the link between the team and organizational performance. Several structure variables are related to firm performance in prior studies including variation in educational backgrounds, heterogeneity in functional backgrounds (Zenger and Lawrence, 1989; Keck, 1997), variation in industry experience (Eisenhardt and Schoonhoven, 1990), variation in team tenure (Keck, 1997), variation in the team's joint work experience, and tenure (Keck, 1997). These structural effects may be great in influence, but their direction is far more difficult to predict as they are very sensitive to contextual aspects. As our overall hypothesis concern the thesis that structural and processual effects are emphasized in the turbulent or ambiguous conditions, we predict positive structural effects on firm growth in small companies, in a young industry and in a highly innovative context.

Hypothesis 2: The variation and heterogeneity of resources in team is related positively to firm growth and profitability in a young industry, small companies, and companies producing innovative products.

Group process

The third element of the model suggests that the top management team's and its individual member's processes will directly affect performance. This process model assumes that both demography (group resource and structural models) and process will be directly and independently related to organizational performance, with process accounting for variation in performance that demography leaves unexplained. The rationale for the process model is

¹ On the other hand, the great amount of resources in a young, small and innovative firms may indicate exceptional business ideas and opportunities as well as successful team formation and may have a strong positive association to firm growth and profitability.

derived from the group theory, social psychology, and psychology literature. The following group process issues are included in the model as they relate to the performance and growth of the group: the team members' perceptions about the clarity of various issues concerning task behavior (Gladstein, 1984) and their perceptions about the degree of shared understanding within the management team (Matthes, 1992), social integration within the team (Smith et al. 1994), the degree to which team members perceive their motivation toward the task more as intrinsic controversy to extrinsic (Ryan, 1993), the degree to which they have internalized the values and vision of the task process to their core self (Ryan, 1993), commitment to the task and organization (Korsgaard et al., 1995; Zaccaro and Lowe, 1987), drive toward the task (Greene, 1989), communication frequency (Daft and Lengel, 1992) and communication informality (Shaw, 1982). As these process (and phenomenological) issues are very sensitive to their contexts, we predict a great variation in their effects on organizational growth in different context, showing a positive relationship in young industries, small firms and highly innovative companies.

Hypothesis 3: The “intensity” of team processes is related positively to firm growth and profitability in young industries, small companies and companies producing innovative products.

METHOD

The target population for the study consisted of top management teams from a set of technology-based companies founded in Finland between 1983 and 1995. Two industries were included in the study: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722).

The names of firms were first identified from a database consisting of all of the companies in the industry in Finland. 512 companies employing more than five people in the selected industries were identified. The number of companies reduced to 450 when the subsidiaries of other companies with clearly no strategic decision-making of their own were left out.

A letter briefly introducing the study was sent to the CEOs of the companies, informing them that they would receive a telephone during the coming week to ascertain their willingness to participate in the study. They were also given the contact information of the researcher and informed that they could contact him directly without waiting for the call. The introductory letters were sent in four phases or waves to make it possible to complete at least one round of calls to those companies within a week.

After the initial contacts (letters and phone conversation), the survey was sent to 111 companies and 430 members of their top management teams. To operationalize the teams, we asked each CEO to identify the members of their “real” top management team. The average number of team members per firm in the sample supplied by CEOs was 3.9.

Responses were received (after three reminding rounds for some of the companies; an additional questionnaire packet was enclosed in the second reminder) from 64 team managed companies (58% of those received the packet). Unfortunately, however, responses from 17 team companies did not fulfil our criteria (only one individual response from a team (14); individual responses from only part-time board members, but not from full-time managers (1); and individual responses that were not fully completed (2)). The final team sample reduced to 47 teams. Altogether 147 responses out of 172 supplied by the CEOs of the companies were received making the average per team response 3.1 (Table 1).

The sample was split into the following subsamples: companies with the SIC codes 31-33 representing a mature industry and companies with a SIC code of 72, representing a young industry, companies with 1-49 employees categorized as small, and companies with 50-500

employees representing medium-sized companies, and finally, companies whose innovativeness index was 3.25 or less, which were ranked as low or moderately innovative, and companies whose innovativeness index was 3.75 or more, which were as ranked highly innovative. The innovation index was an average of three items measuring technical innovation (Eisenhardt and Schoonhoven 1990) and one item measuring overall innovativeness of the business indicated by the CEO of the company.

Table 1
Team Sizes and Responses

Team Size as Supplied by the CEO		Number of Responses Provided	
Teams with 2 members	16	Teams with 2 responses	25
Teams with 3 members	12	Teams with 3 responses	7
Teams with 4 members	5	Teams with 4 responses	7
Teams with 5 members	7	Teams with 5 responses	3
Teams with 6 members	4	Teams with 6 responses	4
Teams with 7 members or more	3	Teams with 7 responses or more	1
Number of teams	47	Number of teams	47
Number of team members	172	Number of respondents	147
Average team size	3.7	Average per team response	3.1

Variables

Team resource variables: averaged industry experience, averaged joint work experience, averaged team tenure, averaged organizational tenure, averaged level of education and team size.

Team structure variables: variation in industry experience, variation in joint work experience, variation in team tenure, variation in organizational tenure, variation in educational backgrounds and heterogeneity in functional backgrounds. Functional heterogeneity was measured in terms of Blau's (1977) heterogeneity index: $(1 - Z_i^2)$, where i is the proportion of the group in the i th category. A high score on this index indicates variability in functional backgrounds among team members or functional heterogeneity; a low score represents greater functional homogeneity.

Team process variables: perceived clarity of goals (six items; $\alpha = .86$), perceived shared understanding of goals (seven items; $\alpha = .87$), social integration within the team (nine items; $\alpha = .85$), internalization of task (four items; $\alpha = .67$), internalization of values (two items; $\alpha = .75$), internalization of vision (one item), commitment to task (six items; $\alpha = .70$), personal drive (five items; $\alpha = .82$), communication frequency (two items; $\alpha = .63$), and communication informality (two items; $\alpha = .59$).

Organizational performance: annual growth in sales as the percentage increase or decrease in sales and return on assets (ROA).

Control variables. past firm performance as percentage growth in sales and ROA (t-2), firm size (log sales), firm age, market growth and number of new entries within the year indicated by CEOs of the companies.

Analysis

The principal component analysis was performed to reduce the number of variables in a few components that accounted for most of the variation within each model element. In addition,

to these separate principal component analyses in each element of the model, the analysis was performed for all of the independent variables of the model. The same components were supported. Two resource components, two structure components, and three process components were found accounting for approximately 70 percent of the variation within each category (see Tables A2, A3 and A4 in Appendix).

The first resource component (R1) included industry and joint experience and team and organization tenure. The second resource component (R2) represents team size and level of education. We labeled the former component 'context specific resources, knowledge and skills' and the latter 'non-context specific (generalist) resources, knowledge and skills.'

The first structural component (S1) included the variation in industry and joint experience and the variation in team and organizational tenure. The second structural component (S2) consists of the variation in education level and the functional heterogeneity. We labeled the first component 'variation in context specific knowledge and skills' and the second 'variation in non-context specific (or scholarly) knowledge and skills.'

The first process component (P1) was made up of five items containing the clarity and shared understanding of goals, social integration, and internalization of the task and values. It was labeled 'fluency of group behavior.' The second process component (P2) represents the team member's personal drive and integration into the task process and was labeled 'personal drive.' The third process component (P3) describes frequency and informality of team communication and was named communication informality.'

Once dimensionality of the data was reduced to a few components, all the data were analyzed together in a single regression of the hypothesized model. Separate regressions were then performed for the model in subsamples representing different venture creation contexts. Before the separation of observations into separate groups, tests of structural differences between them were performed to confirm that the coefficients are indeed different.

Backward elimination criteria were used in creating regressions. This means that all the predictors were initially entered in the regression equation. The predictor with the smallest partial correlation was examined first. If it exceeded the previously specified F ratio (or, alternatively, the probability that it would remove predictors), it was excluded from the regression equation and the predictor with the next smallest partial correlation was considered. The analysis stopped when no further predictors satisfied this criterion. The regression model with the highest adjusted R Square was chosen as the best application.

RESULTS

Table A5 reports the means, standard deviations, and correlations for the variables in this study. Table 2 and 3 report the results of the regression analyses with percentage sales growth and ROA as dependent variables.

The hypothesis 1a stated that the "level" or the amount of resources in the team is related positively to firm growth and profitability in mature industries, medium-sized firms, and firms producing only moderately innovative products. The hypothesis is not supported. There is no significant positive relationship between either R1 or R2 and percentage sales growth or ROA in any of the subgroups suggested. There is a positive but not yet significant relationship between R1 and ROA in medium-sized firms and mature industries. Contrary to our hypothesis, the study found a significant negative relationship between R2 and percentage sales growth in moderately innovative firms.

Table 2. Regression Analyses & Hypotheses Tests (percentage sales growth)

Independent variables	Industry		Firm Size		Innovativeness	
	Young	Mature	Small	Medium	High	Low
Direct Resource effect 1 (R1) ∪ Industry experience ∪ Joint work experience ∪ Team tenure ∪ Organization tenure	-.328+	-.028	.292	-.157	.433**	
Direct Resource effect 2 (R2) ∪ Level of education ∪ Team size	-.376+	-.252		-.147		-.503*
Structure effect 1 (S1) ∪ Variation in industry exp. ∪ Variation in joint work exp. ∪ Variation in team tenure ∪ Variation in org. tenure		.178	.372**	.157	.410**	
Structure effect 2 (S2) ∪ Variation in level of education ∪ Functional Heterogeneity		-.024	-.214		-.628**	
Process effect 1 (P1) ∪ Clarity of goals ∪ Shared understanding of goals ∪ Social integration ∪ Internalization of task ∪ Internalization of values		-.010	.179	-.271*	.335**	.143
Process effect 2 (P2) ∪ Internalization of vision ∪ Commitment to task/org. ∪ Personal drive toward task	.246	.163	.393**	-.318*	.326**	
Process effect 3 (P3) ∪ Communication frequency ∪ Communication informality	-.583*	.138		.288*	.695**	-.307*
Controls ∪ Past firm performance (t-2) ∪ Firm size ∪ Firm age ∪ Market growth ∪ Market entry	.317+	.797** .156 .475* .136 .145	.537** .305*	.819** .502** .317**	.897** .272* .348* .245*	 .516* .354* .245*
R ²	.529	.589	.594	.846	.923	.736
Se	.51	.68	.71	.67	.58	.71
N	19	28	27	20	23	21
d.f.1	1	12	1	2	1	1
d.f.2	12	15	18	16	11	13

Notes: + = p < .10 * = p < .05 ** = p < .01

ESSAY 2

Table 3. Regression Analyses & Hypotheses Tests (ROA)

Independent variables	Industry		Firm Size		Innovativeness	
	Young	Mature	Small	Medium	High	Low
Direct Resource effect 1 (R1) v Industry experience v Joint work experience v Team tenure v Organization tenure		.302	.328+	.360+	.742**	
Direct Resource effect 2 (R2) v Level of education v Team size	.280	-.115	.311	.209	-.297+	
Structure effect 1 (S1) v Variation in industry exp. v Variation in joint work exp. v Variation in team tenure v Variation in org. tenure		.033		.252+	.479*	
Structure effect 2 (S2) v Variation in level of education v Functional Heterogeneity	.411+	-.340+		-.239	-1.157**	
Process effect 1 (P1) v Clarity of goals v Shared understanding of goals v Social integration v Internalization of task v Internalization of values		.014			.330*	
Process effect 2 (P2) v Internalization of vision v Commitment to task/org. v Personal drive toward task	.630**	.037	.464**			
Process effect 3 (P3) v Communication frequency v Communication informality	.516*	.069	.513**	.418*	.422+	
Controls v Past firm performance (t-1) v Firm size v Firm age v Market growth v Market entry		.722** .070 .143 .045 .300+		.996** .224 .493* .319* .115	1.171** .224 .493* .272+	.649**
R ²	.472	.524	.351	.825	.776	.391
Se	.51	.64	.71	.67	.58	.71
N	19	19	27	20	23	21
d.f.1	1	12	1	1	1	1
d.f.2	12	15	19	10	11	18

Notes: + = $p < .10$ * = $p < .05$ ** = $p < .01$

Hypothesis 1b stated that the “level” or the amount of resources in team is related negatively to firm growth and profitability in firms producing innovative products. In contrast to our hypothesis, the study found a significant positive relationship between R1 and both percentage sales growth and ROA in the firms which perceive their products as highly innovative. In addition, the study found a positive but not yet significant relationship between R1 and both firm growth and profitability in small firms. The findings of the study provide support instead for the opposite statement, that the “level” or the amount of resources in teams is related positively to firm growth and profitability in small firms and firms producing innovative products.

Hypothesis 2 stated that the variation and heterogeneity of resources in teams is related positively to firm growth and profitability in young industries, small companies, and companies producing innovative products. This hypothesis is partially supported. S1 has a very significantly positive relationship to both firm growth and profitability in firms with highly innovative products. S1 also has a very significant positive relationship to percentage sales growth in small firms. However, contrary to our hypothesis, S2 is has a significantly negative relationship to both firm growth and profitability in the context of highly innovative products.

Hypothesis 3 stated that the “intensity” of team processes is related positively to firm growth and ROA in young industries, small companies, and companies producing innovative products. There is substantial support for the hypothesis. In firms with innovative products P1 has a significant positive relationship to both firm growth and profitability. P2 has a significant positive relationship to percentage sales growth in small firms and firms with innovative products and a significant positive relationship to ROA in small firms and young industries. P3 has a significant positive relationship to percentage sales growth in firms with innovative products and a significant positive relationship to ROA in small firms and young industries. However, the study found no significant relationship between P1 and both firm growth and profitability in small firms or in young industries. In addition, the study found a negative relationship between P3 and ROA in young industries.

Even though process aspects are important in small firms and firms producing innovative products, the study found a significant positive relationship between P3, communication frequency and informality and also both percentage sales growth and ROA in medium-sized firms. Instead, P1 and P2 have a significant negative relationship to percentage sales growth in medium-sized firms. This is pursued further in the discussion section of the study.

DISCUSSION

Based on prior literature, disagreement persists as to whether specific aspects of the team have positive or negative effects on firm performance. This study built on the conflicts in the literature and explored whether the intervening effects of venture creation context, specified as industry branch, firm size and perceived product innovativeness, contribute to our understanding of the link between group and organizational growth. Drawing on recent research on entrepreneurial/management teams and the literature of firm performance, a model consisting of the effects of team resources, structures and processes on performance was developed.

The overall hypotheses of the study suggested that the direct resource effects would have a positive influence on firm growth in mature industries and in medium-sized and moderately innovative companies. On the other hand, the structural and processual effects of teams on firm growth would be emphasized in young industries and small and innovative companies. Although the findings provided some support for the hypothesis, they also raised some strong counter-arguments.

In short the results of the study suggest that not only the structural and processual issues of founding/top management teams but also resource issues are associated with firm growth and profitability in small firms and firms producing innovative products. On the other hand, team aspects were not significantly related to firm growth and profitability in medium-sized firms and firm producing moderately innovative products. These findings contribute to the existing literature on the importance of teams especially in the high-velocity conditions of founding and growth of the firm (Murray, 1989; Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992). The findings are also consistent with the argument that the impact of the top team on firm survival and growth is greater in new novel companies than in old established firms (Gartner, Shaver, Gatewood, and Katz, 1994). However, the issue of whether the formation of teams and the success of firms were based on a conscious independent act by the founders and managers (strategic choice view of growth e.g. Child, 1979) or were made possible by the environment (the deterministic view of growth e.g. Hannan and Freeman, 1984) remains open.

There are number of issues to be examined further. The study found a negative but not yet significant relationship between resource component R1 (industry and joint experience) and percentage sales growth in young industries. The result could be interpreted to mean that in the highly ambiguous conditions of a young emerging industry, the prior industry and joint experience may even hinder identification of key aspects of the competitive edge of the emerging industry.

Team resource component R2 (team size and level of education) had a significant negative relationship to percentage sales growth in firms producing moderately innovative products and a negative but not yet significant relationship to sales growth in young industries. Moreover, this R2 was negatively but not yet significantly related to ROA in firm producing highly innovative products. These findings are consistent with prior contradictory findings on the effects of group on performance. On the one hand, a larger group has greater cognitive resources at its disposal, resources that may contribute to improved group knowledge, creativity, and performance (Halebian and Finkelstein, 1991). On the other hand, the larger group may suffer from problems related to control and coordination, with the net result that performance declines.

Even though structure component S1 (variation in industry and joint experience) was positively related to firm growth and profitability in various contexts, team structure component S2 (team functional heterogeneity, variation in education) had a significant negative relationship to both firm growth and profitability in the context of highly innovative products and a negative but not yet significant relationship to ROA in medium-sized firms and mature industries. These findings are consistent with the general statements of researchers that team heterogeneity is negatively related to social integration and communication. Wiersema and Bantel (1992) maintained that the unfamiliar language of people with dissimilar experiences, backgrounds, beliefs, and values will presumably lead to difficulties in communication and diminished team integration. The interpretation of the finding is made more difficult by the fact that the component S2 consisted of team functional heterogeneity and variation in the level of education, which may provide a different kind of challenges for co-operation in the team.

Another noteworthy issue is that structure component S2 (team functional heterogeneity, variation in education) had a positively but not yet significant relationship to ROA in young industries and contrary to this had a negative but not yet significant relationship to ROA in mature industries. One interpretation could be that there is more variation in teams in terms of functional heterogeneity and variation in level of education in young industries than in mature industries. During the process of maturity the firms and teams become more similar in spite of their attempts to differentiate themselves from each other (DiMaggio and Powel, 1979).

Although a positive link between team process issues and firm growth and profitability was found, the question arises of why there was no significant relationship between P1 (clarity and shared understanding of goals) and both firm growth and profitability in small firms or in young industries. Does this indicate the overly ambiguous and uncertain condition of small firms and young industries, which makes it obvious that the goals of firm and thus consensus regarding them are being continuously sought instead of being clear and unambiguous?

Similarly, the question arose, why was there a significant negative relationship between P3 (communication frequency and informality) and ROA in young industries. Whether the frequent and informal communication indicate the highly ambiguous and uncertain business environment where profitability is difficult to achieve?

Surprisingly process component P1 (clarity and shared understanding of goals) and P2 (internalization of vision and task) had a significant negative relationship to percentage sales growth in medium-sized firms. On the other hand, process component P3 (communication frequency and informality) had a significant positive link to both firm growth and profitability in medium-sized firms, however. The decrease in personal drive may be related to the observation that organizations become more control-oriented as they grow (Mintzberg, 1979), which on the other hand lessens the personal drive of individual group members. These issues will be examined further in the following studies.

Any study has certain limitations. In particular, the study is based on a limited sample of firms from a high-velocity environment. Given the sample size, the research was limited in the number of independent variables that could be examined simultaneously. Moreover, the high multicollinearity between the variables decreased the validity of the results, especially when the intervening effects of the product innovativeness were analyzed. In addition, by focusing on a sample of firms from a high-velocity environment, we can make only limited generalizations about the impact of exogenous contextual variables. Even so, the industry branch and perceived competitive conditions were controlled.

As a conclusion, the study brought out interesting new issues related to the link between aspects of founding/management team and firm performance. A particular strength of this study is its focus on the contextual issues, which provide a more fine grained understanding of the link and new directions for further studies. It also provides encouragement for further research on the moderating aspects of the link between the top team and firm performance.

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ESSAY 2

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APPENDIX

Table A1

The components of the model and their hypothesized relationships to growth in three contexts

	Description of the contexts and hypothesized relationships between the model and firm growth in these contexts*					
Components of model	Industry		Firm size		Innovativeness	
	Young	Mature	Small	Medium	High	Low
Direct resource effect 1 ∪ Industry experience ∪ Joint work experience ∪ Team tenure ∪ Organization tenure ∪ Level of education ∪ Team size	0	+	0	+	-	+
Structural effect ∪ Variation in industry exp. ∪ Variation in joint work exp. ∪ Variation in team tenure ∪ Variation in org. tenure ∪ Variation in level of education ∪ Heterogeneity in functional backgrounds	+	0	+	0	+	0
Process effect model ∪ Clarity of goals ∪ Shared understanding of goals ∪ Social integration ∪ Internalization of task ∪ Internalization of values ∪ Internalization of vision ∪ Commitment to task/org. ∪ Personal drive toward task ∪ Communication frequency ∪ Communication informality	+	0	+	0	+	0

*) + positive , 0 neutral and - negative relation to firm growth

APPENDIX

Table A2. A Principal Component Matrix of Direct Resource Effect Variables

	Component	
	R1	R2
υ Industry experience	0.841	0.072
υ Joint work experience	0.806	-0.180
υ Team tenure	0.886	-0.019
υ Organization tenure	0.862	-0.007
υ Level of education	-0.002	0.799
υ Team size	-0.047	0.774
Eigenvalue	2.903	1.260

Proportion of Variance Explained – 69.39

* No other factors produced eigenvalues greater than or equal to 1

Table A3. Principal Component Matrix of Structure Effect Variables

	Component	
	S1	S2
υ Variation in industry exp.	0.656	-0.396
υ Variation in joint work exp.	0.870	0.159
υ Variation in team tenure	0.921	0.077
υ Variation in org. tenure	0.865	0.050
υ Variation in level of education	-0.254	0.824
υ Functional Heterogeneity	0.385	0.560
Eigenvalue	2.997	1.183

Proportion of Variance Explained – 69.67

* No other factors produced eigenvalues greater than or equal to 1

Table A4. A Principal Component Matrix of Process Effect Variables

	Component		
	P1	P2	P3
υ Clarity of goals	0.862	0.185	-0.200
υ Shared understanding of goals	0.891	0.105	0.021
υ Social integration	0.775	0.317	0.178
υ Internalization of task	0.682	0.228	-0.233
υ Internalization of values	0.557	0.445	0.042
υ Internalization of vision	0.416	0.742	0.020
υ Commitment to task/org.	0.396	0.777	0.106
υ Personal drive toward task	0.024	0.861	-0.295
υ Communication frequency	-0.211	0.062	0.799
υ Communication informality	0.109	-0.154	0.846
Eigenvalue	4.424	1.575	1.200

Proportion of Variance Explained – 71.98

* No other factors produced eigenvalues greater than or equal to 1

Table A5

Means, Standard Deviations and Inter-correlations (N=47)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. R1	0.00	1.00	1.000											
2. R2	0.00	1.00	.000	1.000										
3. S1	0.00	1.00	-.573**	.316*	1.000									
4. S2	0.00	1.00	.280+	.024	.000	1.000								
5. P1	0.00	1.00	.042	.021	.005	.477**	1.000							
6. P2	0.00	1.00	-.313*	-.126	.188	.013	.000	1.000						
7. P3	0.00	1.00	.088	-.485**	-.346*	.044	.000	.000	1.000					
8. Firm growth	28.09	29.25	-.180	.103	.284+	.088	.265+	.339*	.037	1.000				
9. Firm growth (t-1)	19.65	29.75	-.166	.099	.035	.374*	.132	.029	.129	.167	1.000			
10. Firm size	3.37	1.55	-0.36	.530**	.225	.073	-.049	.055	-.546**	.092	.149	1.000		
11. Firm age	94.26	43.31	.443**	.162	-.098	.167	-.084	-.471**	-.028	-.238	.011	-.057	1.000	
12. Market growth	1.96	2.27	-.032	-.091	-.019	.110	.138	-.103	-.008	.393**	.170	.060	-.065	1.000
13. Market entry	17.35	11.92	-.186	-.025	.261+	.294*	.263+	.253+	.319*	.447**	.210	-.128	-.124	.057

Notes: + = p < .10 * = p < .05 ** = p < .01

Essay 3

ENTREPRENEURIAL TOP MANAGEMENT TEAM DEMOGRAPHY, PROCESS AND ORGANIZATIONAL PERFORMANCE: THE INTERACTION EFFECTS OF STRATEGIC ORIENTATION

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ABSTRACT

Recent studies have suggested that it is the fit between the characteristics of venture/top management and environmental and organizational context that determines whether a particular team aspect has a positive or negative relationship to firm performance. This study suggests that in addition to this, team aspects have to match the strategic orientation adopted by the firm. The moderating effect of the strategic orientation on the effects of team diversity and the affective commitment of team members to firm growth are explored. However, the results provide no support for the relative independence of the strategy context together with team aspects providing a context determining partial success. The study suggests that demanding strategies (a strong entrepreneurial orientation or strong marketing orientation) do not necessarily need more heterogeneous teams in order to be successful. In connection with the upper echelons perspective, the strategic choice itself might reflect similarities in the backgrounds of team members. Teams with an innovation or marketing orientation will choose the strategy accordingly. On the other hand, they may have chosen each other as team members largely because of a similar mindset.

INTRODUCTION

There is mounting evidence that the founding/management team can make a positive contribution to the firm's success. It has been argued, indeed, that the impact of the top team on firm survival and growth is greater in new companies than in old established firms (Gartner, Shaver, Gatewood, and Katz, 1992). The accumulating knowledge on the importance of teams has led venture capitalists and government agencies to rely heavily on teams and team building to guarantee the success of new firms.

Although numerous studies have confirmed the link between team aspects and firm outcomes, prior research contains many contradictory findings regarding whether a particular team aspect has a positive or a negative effect on firm performance (Keck, 1997). Recent research has suggested that whether specific team aspects have positive or negative effects on firm growth depends greatly on the venturing context. Among the contextual factors that have been found to moderate the relationship between team aspects and firm performance are environmental volatility (Keck, 1997; Ensley and Amason, 1999; Handelberg and Vyakarnam, 2000), industry characteristics (Handelberg and Vyakarnam, 2000), innovativeness, and the developmental phase of the firm (Carton and Amason, 2000; Handelberg and Vyakarnam, 2000). The theoretical rationality behind those results is that claims on the knowledge and skills of the company management vary in different environmental and industry contexts (Lawrence and Lorch, 1969) and organizational phases (Grainer, 1974). Hence, the effects of team aspects on firm performance vary greatly between contexts.

Drawing from strategic management literature, which has already long suggested that management characteristics should “fit” organizational strategy (e.g. Hofer and Davoust, 1977), this paper explores whether the strategy context of a firm provides a reality distinct from environmental and organizational contexts that would have its own moderating effects on the relationship between team aspects and firm growth. We suggest that strategic orientation and team diversity will interact and together be positively or negatively related to firm performance depending on the demands posed by the particular strategic orientation on the task domain of the team. On the other hand, because the affective commitment presents already outcomes of team processes, we suggest that the relationship between affective commitment and firm performance is not moderated by the environmental, organizational, or strategic context.

The rest of the paper is divided into four major sections. Drawing on prior research and theory, the next section builds the link between the diversity of the team, the affective commitment of team members, and firm performance, and advances hypotheses suggesting the moderating effects of different strategic orientations on that link. Then the field research methodology, instrumentation, and analysis are discussed. The final two sections present the findings and discuss the implications of our study for further research.

THEORY DEVELOPMENT AND HYPOTHESES

Team heterogeneity

Several authors have discussed and/or shown the effects of the heterogeneity of team members on team and firm performance (Bantel and Jackson, 1989; Hambrick and Mason, 1984; Murray, 1989; Pfeffer, 1983; Wiersema and Bantel, 1992; Ensley, et al., (1998). Murray (1989) argued that the more heterogeneous the skills or functional backgrounds of the TMT member, the better the long-term performance. Murray also contended that while heterogeneity would have positive long-term effects, its short-term performance effects would be negative. Murray’s argument was that heterogeneity would provide better alternatives for consideration by the TMT. Bantel and Jackson (1989) found that functional heterogeneity among bank executives increased innovativeness in service offerings. They explained that educational and functional heterogeneity increases cognitive resources in the team and thus produces positive effects. Keck (1997) concluded that positive relationships between team heterogeneity and firm performance may occur because increased functional heterogeneity is related to increased environmental scanning, generation of alternatives, and multiple interpretations of information (c.f., Hambrick and Mason, 1984), all of which are related to the task functions of the team. Consistent with these results, Zenger and Lawrence (1989) found that as R & D teams matured, i.e., the variation in tenure decreased, they reduced communication with outside groups and filtered necessary information that would have led to more successful team performance.

Though heterogeneity brings additional resources to the team, it also complicates decision-making, implementation of those decisions, and the maintenance functions of the team. Higher levels of variation in tenure are associated with lower levels of (1) communication with the outside and information dissemination (Zenger and Lawrence, 1989), (2) commitment to group goals and norms (Murray, 1989), (3) socialization (Katz, 1980, 1982), (4) justification of past actions (Zenger and Lawrence, 1989), and (5) team performance (Zenger and Lawrence, 1989). Differences in entry date lead to dissimilarity of attitudes (Wagner et al., 1984) and experience (Hambrick and Mason, 1984) which, in turn, may bring varied outlooks that are difficult to reconcile. Dissimilarity of attitudes increases team conflict, decreases interpersonal communication (Wagner et al., 1984), and reduces perceived effectiveness (Tsui and O’Reilly, 1989). Consistent with these findings, Zenger and Lawrence (1989) and Jackson, et al. (1991) found that heterogeneity in the functional areas of team members - industry experience, educational level, and educational specialty - were positively related to TMT turnover.

Affective commitment

Perceived effectiveness or competence (in terms of the accumulated knowledge structures of the individual or group), a feeling of capability, and possession of the instruments needed to carry out the task are the main drivers of human motivation and thus of the affective commitment of team members as well. Commitment to carrying out decisions is important because the members of a decision-making team can delay or sabotage implementation of initiatives (Guth and MacMillan, 1986); even slight delays can prove critical in highly competitive and dynamic environments (Eisenhardt, 1989). Korsgaard et al. (1995) defines commitment as the extent to which team members accept the strategic decision and intend to cooperate in carrying it out. The commitment of individuals to a strategic decision ensures that the mutual and consonant choices necessary for coordinated, cooperative effort will be made (Deutch, 1957), whereas a lack of commitment places a major constraint on the range of options. A lack of commitment to a strategic decision can greatly affect team's ability to implement it (Hitt and Tyler, 1991). Finally, because strategic decisions are often interwoven and integrated with one another, lack of commitment to a decision generally has repercussions far beyond its impact on the success of that decision alone (Bourgeois, 1984, Eisenhardt, 1989).

Direct and moderating effects of strategic orientation

Based on logical arguments, academics (e.g., Hofer and Davoust, 1977) have long posited that the characteristics of managers should "fit" organizational strategy. The basic argument has been that different strategies pose different task demands. For effective strategy implementation, the characteristics of managers should reflect the skills, attitudes, and perspectives needed to meet these demands. Recent research in strategic management has confirmed that the fit between strategy and implementation is the key to success (McGrath, Tsai, Venkataraman and MacMillan, 1996). In new ventures, the management is responsible for implementing strategy. Hence, the fit of the team to the strategy is especially important (Carton and Amason, 2000). Both the degree of innovation (c.f., Carton and Amason, 2000) and the particular strategic orientation or strategic emphasis of the firm appear to dictate many of the tasks of the top management team. In part then, firm performance reflects the fit between the team and the strategic orientation of the firm.

There are a number of ways to conceptualize the strategy of firm (see e.g., Mintzberg, Ahlstrand and Lambel, 1998). Tushman and Romanelli, (1985, p. 176) defined strategic orientation in terms of the firm's business and how it competes. While the firm's strategic orientation may or may not be explicit, it can be described by the following set of organizational activities: (1) core beliefs and values regarding the organization, its employees and its environment; (2) products, markets, technology and competitive timing; (3) the distribution of power; (4) the organization's structure; and (5) the nature, type, and pervasiveness of control systems (Tushman and Romanelli, 1985, p. 176). According to the literature cited, one approach is to view the strategic orientation not as a specific mindset, but as a broader means for guiding the overall resource allocation behavior of the firm. Another approach could be related to the more generic type of firm strategies. As we are interested in firm growth, which by definition means innovative and entrepreneurial behavior, we chose the entrepreneurial orientation (EO) as central for describing the strategy context of firm. On the other hand, along the lines of the generic strategies of Porter (1985) - differentiation, cost efficiency, and focus strategies - we choose the simpler indicators of the strategic emphasis of the firm toward technological expertise, marketing expertise, or cost efficiency). This was thought to be partially related to the developmental phase of the firm (e.g., Kazanjian, 1988) and also of the life cycle stage of a specific market or industry branch.

Entrepreneurial orientation (EO) viewed as innovativeness, proactiveness, risk-taking, and competitive aggressiveness has become an important and extensively researched concept in entrepreneurship studies (Wicklund, 1999). The concept originates from the study by Miller and

Friesen (1978) where innovation, proactiveness, risk-taking and competitive aggressiveness were the “entrepreneurial” dimensions of strategy out of a total of eleven such dimensions discussed (Lumpkin and Dess, 1996). Since then a scale for the empirical measurement of these dimensions was developed by Miller (1983) and further developed by Covin and Slevin (1986, 1989).

Several studies suggest that EO may influence firm performance directly (e.g., Namen and Slevin, 1993; Wicklund, 1999). However, Hart (1992) sees possible negative consequences of EO and hypothesized that entrepreneurial and intrapreneurial strategy-making modes are likely to lead to lower rather than higher performance due to role imbalances between top management and organizational members. Lumpkin and Dess (1996, 1997) state that many researchers have identified and tested only three dimensions of EO (innovativeness, risk taking, and proactiveness) and overlooked the notion of competitive aggressiveness. They suggested the usefulness of considering EO a multidimensional construct and found that proactiveness and competitive aggressiveness tend to vary independently and have unique relationships with the performance constructs.

EO provides an interesting construct for studying the fit between the team and strategic orientation from the perspective of this study and regardless of whether it turns out to be a multi-dimensional rather than a uni-dimensional construct. This is because it is said to be a resource-consuming strategic orientation requiring extensive investment by the firm. The “level” of entrepreneurial orientation, or particular dimensions of it, would pose different task demands for teams. Indeed, a preliminary analysis of our moderated version of the EO scale suggested that it is a three-dimensional construct consisting of a proactiveness-innovativeness component, a competitive aggressiveness-calculative-risk-taking component, and a component that we called risk-taking-proactiveness. The measures were somehow modified from the original operationalization by Miller/Covin and Slevin, which will be discussed in greater depth in the methods section.

So, what kind of demands would the different dimensions of strategic orientations cited above pose for tasks and thus for the composition/structure of the team? If the strategic context calls for rigorous scanning, search, interpretation, and selection processes to address pressing problems, heterogeneity may be desirable. Countervailing forces may require specific knowledge and consequently dictate that heterogeneity be retained to facilitate problem-solving. However, if the strategy context does not warrant such vigilance, the overhead cost of heterogeneity (such as time consuming problem solving) may outweigh any advantages (Bantel and Jackson, 1989).

Following this logic, we now seek to establish a hypothesis on how the demands and claims of a particular strategic orientation or emphasis determine the diversity of the team. First, we establish a common hypothesis related to the direct positive influence of EO on firm performance. Drawing on prior research we suggest the following:

Hypothesis 1a: Team functional diversity is negatively related to firm growth and profitability.

Hypothesis 1b: The affective commitment of team members is positively related to firm growth and profitability.

As EO is said to be a demanding strategy, we hypothesize as follows:

Hypothesis 2a: Entrepreneurial orientation (EO) and team functional heterogeneity will interact so that the greater the EO the stronger the positive association between team functional heterogeneity and firm growth and profitability.

On the other hand, as we assume that the firms with the emphasis on marketing will face an additional task, at least compared to those firms which have their focus on technology and production, we hypothesize as follows:

Hypothesis 2b: A firm's emphasis on marketing expertise and a team's functional heterogeneity will interact so that the greater the emphasis on marketing the stronger the positive association between team functional heterogeneity and firm growth and profitability.

Our additional argument concerning the link between demography, process, and firm growth was that the demography aspects of the team would interact with strategy conditions, but as the intervening individual or team processes are already an outcome thereof, they will not interact with strategy condition. Thus we assume the following:

Strategic orientation will not moderate the relationship between the affective commitment of team members and firm growth.

METHOD

The target population for the study comprised the top management teams from a set of technology-based companies founded between 1983 and 1995 in Finland. Two different types of industries were included in the study: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). The former industries were thought to represent a more mature stage of development while the latter an earlier stage.

The names of firms were first identified from a database consisting of all the companies in the industry in Finland. 512 companies employing more than five people in the selected industries were identified. The number of companies reduced to 450 when the subsidiaries of other companies with clearly no own strategic decision making were left out.

A letter briefly introducing the study was sent to the CEOs of the companies, informing them that they would receive a telephone during the coming week to ascertain their willingness to participate in the study. They were also given the contact information of the researcher and informed that they could contact him directly without waiting for the call. The introductory letters were sent in four phases or waves to make it possible to complete at least one round of calls to those companies within a week.

After the initial contacts (letters and a telephone conversation), the survey was sent to 111 companies and 430 members of their top management teams. To operationalize the teams, we asked each CEO to identify the members of their "real" top management team. The average number of team members per firm in the sample supplied by the CEOs was 3.9.

Responses were received (after three reminding rounds for some of the companies; an additional questionnaire packet was enclosed in the second reminder) from 64 team managed companies (58% of those received the packet). Unfortunately, however, responses from 17 team companies did not fulfil our criteria (only one individual response from a team (14); individual responses from only part-time board members, but not from full-time managers (1); and individual responses that were not fully completed (2)). The final team sample reduced to 47 teams. Altogether 147 responses out of 172 supplied by the CEOs of the companies were received making the average per team response 3.1 (Table A1 in appendix).

Measured in sales, the companies in the sample ranged in size from \$400 000 to \$48 million. The three biggest companies had sales of \$728, \$271 and \$113 million and were analyzed separately from the sample. The companies in the study were engaged in the same kind of

businesses as the firms included in the final sample. The companies that chose not to participate in the study were engaged in the same kinds of businesses as the firms included in the final sample. A preliminary one-way analysis of variance on the number of employees indicated that firms in terms of size, non-responding firms were not significantly different from those responding.

Variables and measures

Team functional heterogeneity. Team members were asked to identify the functional category that most closely represented their background. Functional heterogeneity was measured in terms of Blau's (1977) heterogeneity index: $(1 - \sum Z_i^2)$, where i is the proportion of the group in the i th category. A high score on this index indicates variability in the functional backgrounds among team members or functional heterogeneity; a low score represents greater functional homogeneity.

The affective commitment of team members to task was measured by three 6-point Likert-type items similar to those used by West and Anderson (1996). The statements were the following: "I am ready to expend a lot of effort in developing this company," "I feel that spending my time developing this company is not worth it" (reverse coded), and "I feel strong ties with the development of this company."

Four dimensions of EO – innovativeness, proactiveness, risk-taking, and competitive aggressiveness – were measured with a modified version of the scales developed and tested for reliability by Khandwalla (1977), Miller (1983), Covin and Slevin (1986, 1989) and Covin and Covin (1990) (see Appendix: table A2).

Strategic orientation seen as a more generic emphasis of the firm was measured with single measure; respondents were asked to rank the importance of 1) technological expertise, 2) marketing expertise, and 3) cost efficiency, from the most important to the third most important, with respect to the operations of the firm.

Organizational performance. The following two measures were included: one-year growth in sales as the percentage increase or decrease in sales and return on assets (ROA).

Control variables. In keeping with previous studies of performance, firm age in months, firm size as the natural log of the one-year sales turnover, past firm performance (percentage sales growth and ROA (t-2)), industry growth rate (indicated by respondents), and degree of new competitive entry (indicated by respondents) were all added as control variables.

Analysis

The principal component analysis was performed to reduce the number of dimensions of the EO scale. A hierarchical regression analysis was carried out to test the six hypotheses. We chose regression because of its rigorous test of assumptions and because it can test groups of variables together (Belsley, Kuh, and Welsch, 1980).

RESULTS

Table A7 (in appendix) reports the means, standard deviations, and correlations for the variables in this study. Tables A3, A4, A5 and A6 (in appendix) report the results of hierarchical regression analyses with sales growth.

Hypothesis 1a stated that TMT heterogeneity is negatively related to firm growth and profitability. Essentially, we expected our heterogeneity measures to be negatively related to percentage sales growth. As can be seen in Tables A3 and A5, the team functional heterogeneity has a significant negative relation to ROA but not to percentage sales growth. Thus, hypothesis 1a is partially supported.

Hypothesis 1b stated that the team affective commitment is positively related to firm growth and profitability. As can be seen in Tables A3 and A5, the team affective commitment has a significant positive relationship to percentage sales growth and to ROA. Thus, hypothesis 1b is supported.

Hypothesis 2a stated that entrepreneurial orientation (EO) and team functional heterogeneity will interact so that the greater the EO the stronger the positive association between team functional heterogeneity and firm growth and profitability. To test this, we added to our main effects model the strategic orientation variables as well as multiplicative terms combining strategic orientation and team functional heterogeneity. As can be seen in Tables A3, A4, A5, and A6, no significant interaction effects are found. The addition of these new variables does not add significantly to the overall R^2 of the models for sales growth and profitability.

Hypothesis 2b stated that firm's emphasis on marketing expertise and the team's functional heterogeneity will interact so that the greater the emphasis on marketing the stronger the positive association between team functional heterogeneity and firm growth and profitability. Also, as a significant interaction effect was found, hypothesis 2b is not supported.

We also made the assumption that strategic orientation will not moderate the relationship between the affective commitment of team members and firm growth. To figure this out, we added the multiplicative terms combining strategic orientation and team affective commitment. As can be seen in Tables A3, A4, A5 and A6, the addition of these new variables do not add significantly to the overall R^2 of the models for sales growth and profitability.

DISCUSSION

To summarize, the study was based on the notion that the effect of the management team on financial performance is conditioned by the strategic orientation adopted by the firm. Functionally diverse teams would provide a condition for the emergence of perceived competence and affective commitment in teams with a demanding strategy or strategic emphasis, i.e., a strategy which requires rigorous cognitive and physical resources. On the other hand, teams that are homogeneous in terms of their functional background and experience would provide a condition for the emergence of perceived competence and affective commitment in less "demanding" strategy conditions.

As we were interested in firm growth, which by definition means innovative and entrepreneurial behavior, we choose the entrepreneurial orientation (EO) as central for describing the strategy context of firm. On the other hand, in keeping with the generic strategies, we chose an emphasis on marketing expertise rather than on cost efficiency or technological expertise as an indicator of a more generic strategy.

As suggested by Lumpkin and Dess (1996), the study found that the entrepreneurial orientation did not provide reliability as a single dimensional scale, but rather as a multi-dimensional phenomena. The principal component analysis separated three components. These were a competitive-aggressiveness-calculative-risk component, an innovativeness-proactiveness component, and a rapid-response-to-opportunities component. Only the rapid-response-to-opportunities component was positively but not yet significantly related to sales

growth. Also, the firm's emphasis on marketing was positively related to firm growth and profitability, although the relationship was not significant.

The results of the study confirm that team heterogeneity is a complex issue. Prior research has found a positive relationship between team heterogeneity and long-term performance although the short-term effects were found to be negative. On the one hand, entrepreneurs need to show forbearance and on the other carefulness in forming and developing heterogeneous teams. As Wiersema and Bantel (1992) maintained, the unfamiliar language of people with dissimilar experiences, backgrounds, beliefs, and values will presumably lead to difficulties in communication and diminished team integration. Longitudinal case-studies would be the appropriate method for examining how highly successful heterogeneous teams are formed and developed over time.

The team's affective commitment, i.e. the personal motivation and drive of the team members, are positively related to firm performance. Affective commitment is an interesting issue because it reflects the perceived competence and competitive position of the firm, as well. However, further study is needed to determine the sensitivity of this to changes in competitive position. If the variable is very sensitive to the competitive environment, it no longer explains performance effectively.

Finally, the study suggests that a demanding strategy (a strong entrepreneurial orientation or a strong marketing orientation) do not necessarily need more heterogeneous teams in order to be successful. Related to the upper echelons perspective, the strategic choice itself might reflect similarities in the backgrounds of team members. The teams with members who have an innovation or marketing orientation will choose the strategy accordingly. On the other hand, they may have chosen each other as team members largely because of a similar mindset

As with any study there are certain limitations. In particular, the study is based on a limited sample of firms from a high-velocity environment. In addition, by focusing on a sample of firms from a high-velocity environment, we can make only limited generalizations about the impact of the moderating effects of strategy context variables on firm performance. The results of this study provide a benchmark for further studies with bigger samples or multiple case-studies representing wider variation of industry branches.

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APPENDIX

Table A1
Team Sizes and Responses

Team Size as Supplied by the CEO		Number of Responses Provided	
Teams with 2 members	16	Teams with 2 responses	25
Teams with 3 members	12	Teams with 3 responses	7
Teams with 4 members	5	Teams with 4 responses	7
Teams with 5 members	7	Teams with 5 responses	3
Teams with 6 members	4	Teams with 6 responses	4
Teams with 7 members or more	3	Teams with 7 responses or more	1
Number of teams	47	Number of teams	47
Number of team members	172	Number of respondents	147
Average team size	3.7	Average per team response	3.1

Table A2. Principal Component Loadings for Entrepreneurial Orientation Dimensions (N=47)

Items/scale					Component		
1	2	3	4	5	1	2	3
Typically adopts a very competitive, 'undo-the-competitors' posture (reverse coded)			Typically seeks to avoid competitive clashes, preferring a 'live-and-let-live' posture		.795		
A strong proclivity for low-risk projects (with normal or certain rates of return)			A strong proclivity for high-risk projects (with chances of very high returns)		.796		
Strong emphasis on utilizing tried and true technologies, products/services and ideas			Strong emphasis on developing novel technologies and products/services			.715	
Strong emphasis on effectively following competitive products or ideas			Strong tendency to be ahead of competitors in introducing new ideas or products/services			.814	
Strong tendency to pursue new opportunities quickly (even at the risk of insufficient evaluation) (reverse coded)			Strong tendency to explore new opportunities as carefully as possible (even at the risk of being late to market)				.824
Strong tendency to formalize and standardize business practices			Strong tendency to avoid formalization and standardization of business practices		.350	.412	.527
Eigenvalues					1.53	1.43	1.02

Extraction Method: Principal Component Analysis

Proportion of Variance Explained – 66.3

- No other factors produced eigenvalues greater than or equal 1

Table A3. Results of Regression Analyses for Hypothesized Models: Equations with Sales Growth as Dependent Variables (N = 47) (Standardized regression coefficients)

Independent Variables	Model						
	1	2	3	4	5	6	7
<u>Controls</u>							
Firm age	.11	.22+	.16	.16	.14	.14	.15
Firm size (SI)	-.19	-.11	-.13	-.01	-.01	-.04	-.08
Prior firm growth	.65**	.61**	.54**	.52**	.51**	.54**	.57**
Market Growth	.10	.01	-.06	-.06	-.07	-.07	-.06
Market entry (ME)	.16	.23+	.24*	.24+	.25+	.24+	.23+
<u>Team Predictors</u>							
Functional diversity		.04	-.06	-.07	-.04	.00	-.01
Affective commitment		.32*	.33*	.36*	.36*	.34*	.30*
<u>Strategy Predictors</u>							
Emphasis in marketing (MA)			.09	.10	.11	.11	.09
EO competitiveness-risk (ECO)			.13	-.01	.01	.01	.05
EO innovativeness-proact. (EIN)			-.01	-.01	-.03	.01	.01
EO risk II (ERI)			.24+	.25+	.26+	.24+	.24+
<u>Interactions</u>							
MA x Functional diversity				.05	.04		
MA x Affective commitment					.08		
ECO x Functional diversity						.11	.12
ECO x Affective commitment							-.11
Adjusted R-square	.47	.53	.53	.51	.51	.53	.52
R-squared change	.53**	.07*	.04	.00	.00	.01	.01
F	9.23	8.36	5.69	5.09	4.65	5.25	4.87

Notes: + = $p < .10$ * = $p < .05$ ** = $p < .01$ one tailed.

Table A4. Results of Regression Analyses for Hypothesized Models: Equations with Sales Growth as Dependent Variables (N = 47) (Standardized regression coefficients)

Independent Variables	Model										
	1	2	3	8	9	10	11				
<u>Controls</u>											
Firm age	.11	.22+	.16	.14	.12	.17	.12				
Firm size (SI)	-.19	-.11	-.13	-.05	-.05	-.04	-.02				
Prior firm growth	.65**	.61**	.54**	.52**	.53**	.53**	.49**				
Market Growth	.10	.01	-.06	-.06	-.06	-.07	-.11				
Market entry (ME)	.16	.23+	.24*	.24+	.25*	.24*	.26*				
<u>Team Predictors</u>											
Functional diversity		.04	-.06	-.04	-.04	-.09	-.02				
Affective commitment		.32*	.33*	.32*	.26+	.33*	.40*				
<u>Strategy Predictors</u>											
Emphasis in marketing (MA)			.09	.10	.17	.09	.14				
EO competitiveness-c.risk (ECO)			.13	.02	.04	.02	-.04				
EO innovativeness-proact. (EIN)			-.01	-.01	.00	-.01	-.01				
EO risk II (ERI)			.24+	.23+	.23+	.24+	.26+				
<u>Interactions</u>											
EIN x Functional diversity				.11	.07						
EIN x Affective commitment					-.19						
ERI x Functional diversity						-.06	-.12				
ERI x Affective commitment							.19				
Adjusted R-square	.47	.53	.53	.53	.55	.52	.53				
R-squared change	.53**	.07*	.04	.00	.26	.00	.02				
F	9.23	8.36	5.69	5.29	5.33	5.10	4.05				

Notes: + = $p < .10$ * = $p < .05$ ** = $p < .01$ one tailed.

Table A5. Results of Regression Analyses for Hypothesized Models: Equations with ROA as Dependent Variables (N = 47) (Standardized regression coefficients)

	Model						
Independent Variables	1	2	3	4	5	6	7
<u>Controls</u>							
Firm age	.07	.15	.08	.08	.05	.05	.06
Firm size (SI)	-.06	.04	.11	.10	.10	.10	.10
Prior firm ROA	.62**	.64**	.58**	.58**	.57**	.59**	.59**
Market Growth	-.14	-.10	-.19	-.18	-.20	-.19	-.19
Market entry (ME)	.17	.17	.16	.17	.19	.15	.15
<u>Team Predictors</u>							
Functional diversity		-.29*	-.29*	-.29*	-.23+	-.22	-.22
Affective commitment		.10	.10	.08	.08	.11	.11
<u>Strategy Predictors</u>							
Emphasis in marketing (MA)			-.02	-.03	-.01	.01	.01
EO competitiveness-c.risk (ECO)			-.14	-.13	-.14	-.14	-.13
EO innovativeness-proact. (EIN)			.16	.16	.12	.17	.17
EO risk II (ERI)			.11	.11	.14	.11	.11
<u>Interactions</u>							
MA x Functional diversity				-.05	-.07		
MA x Affective commitment					.15		
ECO x Functional diversity						.13	.13
ECO x Affective commitment							-.01
Adjusted R-square	.40	.46	.46	.44	.44	.45	.44
R-squared change	.46**	.08*	.04	.00	.01	.01	.00
F	7.12	6.69	4.48	4.02	3.82	4.18	3.74

Notes: + = $p < .10$ * = $p < .05$ ** = $p < .01$ one tailed.

Table A6. Results of Regression Analyses for Hypothesized Models: Equations with ROA as Dependent Variables (N = 47) (Standardized regression coefficients)

	Model										
Independent Variables	1	2	3	8	9	10	11				
<u>Controls</u>											
Firm age	.07	.15	.08	.08	.07	.07	.04				
Firm size (SI)	-.06	.04	.11	.11	.11	.12	.13				
Prior firm ROA	.62**	.64**	.58**	.58**	.59**	.58**	.58**				
Market Growth	-.14	-.10	-.19	-.19	-.18	-.19	-.22				
Market entry (ME)	.17	.17	.16	.16	.16	.15	.15				
<u>Team Predictors</u>											
Functional diversity		-.29*	-.29*	-.29*	-.29*	-.25	-.18				
Affective commitment		.10	.10	.10	.07	.11	.15				
<u>Strategy Predictors</u>											
Emphasis in marketing (MA)			-.02	-.02	-.02	-.03	.01				
EO competitiveness-c.risk (ECO)			-.14	-.14	-.12	-.15	-.19				
EO innovativeness-proact. (EIN)			.16	.16	.16	.16	.17				
EO risk II (ERI)			.11	.11	.11	.12	.14				
<u>Interactions</u>											
EIN x Functional diversity				-.00	-.02						
EIN x Affective commitment					-.10						
ERI x Functional diversity						-.03	.10				
ERI x Affective commitment							.14				
Adjusted R-square	.40	.46	.46	.44	.43	.44	.45				
R-squared change	.46**	.08*	.04	.00	.01	.00	.01				
F	7.12	6.69	4.48	3.99	3.68	4.03	3.83				

Notes: + = $p < .10$ * = $p < .05$ ** = $p < .01$ one tailed.

Table A7

Means, Standard Deviations and Inter-correlations (N=47)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Firm growth	24.60	27.36	1.000													
2. Firm profitability	14.56	17.02	.076	1.000												
3. Prior Firm growth (t-2)	31.24	32.30	.690**	-.020	1.000											
4. Prior Firm profitability (t-2)	16.92	16.99	-.036	.644**	.260	1.000										
5. Firm size (log sales)	3.36	1.52	.035	-.038	.211	-.017	1.000									
6. Firm age (months)	93.06	43.06	-.109	-.065	-.295*	-.239	-.054	1.000								
7. Market entry	1.91	2.26	.418**	.254+	.406**	.169	.095	-.073	1.000							
8. Market growth	17.40	11.75	.262+	-.169	.225	-.070	-.147	-.150	.074	1.000						
9. Functional diversity	.53	.15	.018	-.305*	.010	-.025	.306*	.049	-.023	.153	1.000					
10. Affective commitment	4.39	.36	.336*	-.008	.222	.007	-.020	-.449**	.103	.330*	-.007	1.000				
11. Emphasis in marketing	2.02	.79	.170	-.147	.090	-.114	-.206	.096	.013	.145	.018	-.103	1.000			
12. EO competitiveness-c.risk	0.00	1.00	.157	-.184	.149	-.118	.385**	-.039	-.012	-.047	.163	.238	-.012	1.000		
13. EO innovativeness-proact	0.00	1.00	.033	.196	-.140	.015	-.149	.129	.050	.247	-.153	.262	-.066	.000	1.000	
14. EO risk II	0.00	1.00	.318*	.012	.182	.131	-.137	.162	.040	.383**	.369*	-.053	.012	.000	.000	1.000

Notes: + = p < .10

* = p < .05

** = p < .01

Essay 4

ENTREPRENEURIAL TOP MANAGEMENT TEAM DEMOGRAPHY, PROCESS, AND ORGANIZATIONAL PERFORMANCE: AN INSTITUTIONAL EXPLANATION

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ABSTRACT

Relationships have been identified between various aspects of top management teams and firm outcomes and performance, especially in high velocity venturing conditions. However, the findings regarding whether specific team aspects have positive or negative relationships with firm outcomes and performance have not been consistent. Recent research has explored the role of accumulating context in providing further explanations for the emergence and existence of relationships between specific top team aspects and firm outcomes. This study draws on institutional theory (and on the assumptions of scientific realism), which argues that for understanding organizations, performance, and relationships, it is important to determine to which institutional/physical developmental condition the emergence, existence, and meaningfulness of the phenomena, organizations and relationships studied are related and what is the position of the sample/population or case studied within this institutional/physical development. The study hypothesizes how accumulated institutional conditions and developmental settings and the position of the sample/population studied therein provide further explanations for a specific organization and the emergence and existence (or non-emergence and non-existence) of the relationship between top team aspects and firm performance. The study suggests that institutional analysis may provide new insights into the process of organization and the emergence and existence of a link between top management team aspects and firm performance – and thus, of the link between the demographics, processes, and organizational performance of top management teams. The implications for theory and practice are also discussed.

BACKGROUNDS

Mounting evidence suggests that top management teams can contribute greatly to venture growth (Ensley et al., 2002). Although numerous studies have confirmed the link between team aspects and firm outcomes, prior research contains many contradictory findings on whether specific team aspects have positive or negative effects on firm performance (Keck, 1997; Chowdhury, 2005). Recent research has suggested that it depends greatly on the venturing context. Among the contextual factors that have been found to moderate the relationship between team aspects and firm performance in varying degrees are environmental volatility (Keck, 1997; Ensley and Amason, 1999; Handelberg and Vyakarnam, 2000), industry characteristics (Keck, 1997; Handelberg and Vyakarnam, 2000), and the innovativeness and developmental phase of firms (Carton and Amason, 2000; Handelberg and Vyakarnam, 2000). The theoretical rationale behind those results is that demands for knowledge and skills on the part of the management of a company vary in different environmental and industrial contexts (Lawrence and Lorch, 1969) and organizational phases (Grainer, 1972).

This study seeks to provide a more fine-grained framework for understanding the emergence of a specific business organization: the formation of top teams with specific demographics,

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resources, structures, and processes and the emergence and existence of specific relationships between team aspects and firm performance and growth. Since the emergence and formation of organizations with demographics, resources, structures, processes and their relationships always take place in specific social contexts (cf. Weick, 1995), it is important to identify and analyze the specific accumulated social/institutional conditions and settings where the organization and team and the relationships between team aspects and firm performance and growth take place (i.e., to which social context specific organizations and relationships are related). In the sample or case study, differences in social/institutional conditions and their developmental settings and the positions of the sample/population studied within them may provide further explanations for specific organizations and their relationships, including no or weak negative relationships between team demography and process and firm performance and growth.¹ Institutional analysis takes into account specific organizations and the emergence and existence of relationships with the developing institutional context where they (reasonably, meaningfully, legitimately, efficiently, and economically) emerge and exist (Scott, 2001).

The starting point of this essay was our prior survey (Handelberg and Vyakarnam, 1999), which did not find strong relationships between top management team demographics, processes, and firm performance and growth, although several contextual issues were included in the analysis in the sample representing young, technology-based firms in Finland.² The results prompted a number of questions: was the sample biased, were there still some additional issues which should be included in the analysis/equation, do the hypotheses not hold in the Finnish context, or are the hypotheses no longer relevant in the current accumulated conditions of business organization?

An additional thematic and open-ended interview study was carried out in the same population and sample. The purpose of the study was to explain in more depth the conditions that allow business organization and top management teams with specific demographics, resources, structures, and processes to emerge and develop and especially the emergence and existence of a link between team aspects and firm performance and growth as part of the development of the competitive environment and conditions. As the phenomenon under study is complex, exploratory in nature, and represents a confluence of factors, qualitative data analysis proved to be the best approach for developing a model and furthering our understanding (Lee, 1999). Nevertheless, the terms qualitative data, interviews, ethnographies, and case studies are often confused. Qualitative data are a type of evidence, whereas interviews and ethnographies are data collection methods, and case studies are a type of research strategy (Yin, 2003). Case studies are appropriate for examining (1) contemporary or ongoing phenomena not divorced from their real-life context, (2) phenomena that are systemic in nature, with a number of forces acting upon them simultaneously, and (3) phenomena that are contextualized in a manner that makes it difficult to separate them from their context, as can be done in an experiment (Yin, 2003; Tsoukas, 1989).

Interviews were used in this research for three reasons. They are less structured than questionnaires as they allow the spontaneous discussion of problems and solutions and for follow-up questions on a topic with the development of recommendations (Lee, 1999). Interviews also permit iteration and follow-up as required in grounded theory. Finally, as this is a complex area of study and research site, the benefits from conducting in-depth interviews to develop a theoretical understanding of such a domain are well established (Eisenhardt, 1989; Daft and Lewin, 1990).

¹ Although social/institutional conditions of organization may differ, they may also be related and thus provide an opportunity for different position in the wider institutional development.

² The differentiating and intervening effects of the contextual factors on the relationship between team demographics, processes, and firm performance were reported in Handelberg and Vyakarnam, 2000 and 2001.

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The questions asked of the top managers of each firm were thematic and open-ended in that they provided some direction to the respondent, but permitted open responses. The questions primarily addressed the formation of various business operations and teams as part of the development of companies and of the competitive environment and conditions. Additionally, printed material and articles about the firm were also gathered and compared with the interviews.

The aim of the analysis was to categorize new issues (claims, contingences, conditions, and the settings needed) explaining the emergence and existence of the relationship between top team aspects and firm performance. The grounded theory approach was used, since it provided an appropriate method for this task. Glaser and Strauss (1967) were the first to develop grounded theory, while subsequent work by Strauss (1987) and Strauss and Corbin (1990) has further systematized and widened its application. In grounded theory, extensive cases and qualitative information are purposively gathered so that patterns of behavior can be determined. The key steps of grounded theory are codes, identifying anchors that allow the key points of the data to be gathered; concepts, collections of codes of similar content that allow the data to be grouped; categories, broad groups of similar concepts that are used to generate a theory; and theory, a collection of explanations that explain the subject of the research.³ Although grounded theory has been used regularly in sociology and anthropology, it has only recently been applied in organizational research (Lee, 1999). The qualitative data analysis method was used in addition to the grounded theory approach (Lee, 1999; Miles and Huberman, 1999).

The author conducted a total of 81 thematic open-ended, face-to-face in-depth interviews with top managers from 63 companies between August 28, 1999 and January 20, 2000. The firms chosen for the study represented the same population as in our prior survey study (Handelberg and Vyakarnam, 1999) with the exception that those acquired by foreign companies which were their subsidiaries at that time were also included in the interview sample because it seemed likely that they would provide important insight and a comparison between what were apparently strong competitors in the markets. One-third of the managers interviewed (30) represented 18 companies which had responded to our survey in spring 1999. In order to increase the representativeness of our study and at the same time to control any bias in our prior sample, two-thirds of the interviews (51 interviews in 45 companies) were carried out in companies which had not participated to our survey. We followed the purposive sampling approach (Lincoln and Cuba, 1985), which calls for selecting participants with specific characteristics (Lincoln and Cuba, 1985). In this case, an effort was made to ensure that there was a range of firm sizes and success rates. We also ensured that there was diversity in the origin of the firms (both locally founded and international firms).

The number of managers interviewed per company varied from one to six. Two or more top managers were interviewed in ten companies (in two companies up to six top managers). By interviewing several members of the top management teams, we sought multiple views on the organization of the businesses and teams and more rich data related to the issues and conditions of their performance. The interviews lasted from one to two hours per manager. Except for three interviews, all were tape-recorded.⁴ Written documentation was made in these three cases.

In addition to the archival data published by the companies, the tape-recorded interview data were first analyzed in order to understand the formation and development of the businesses and teams as part of the wider development of the competitive environment and conditions

³ Glaser and Strauss (1967)

⁴ All interviewees were asked whether the interview could be tape-recorded. Three persons refused, but allowed written documentation.

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and second to gain insight into those conditions and to understand and describe in more depth the conditions necessary for the emergence of business organizations and teams with specific demographics, resources, structures, and processes. The purpose of analysis was to increase our understanding of the emergence and existence of the link between team aspect and firm performance and growth as part of the development of competitive environment and conditions. The interviews were conducted and coded in a manner consistent with a grounded theory research design (Glaser and Strauss, 1967; Strauss and Corbin, 1990). Using this research design, researchers seek to examine a topic and build theory or new variable relationships through an iterative process of comparing data with a limited baseline framework or with completely new theory as it emerges from the data (Strauss and Corbin, 1990).

Findings of the interview study

The interviews and archival data of the companies sampled brought out the emerging and developing international competitive conditions (and the dependence of competitiveness of firm on those conditions, even focusing on the domestic markets) as a central additional issue influencing (on the one hand providing a great opportunity, but on the other hand posing a great challenge for) the emergence and existence of the relationship between management team aspects and firm growth. The foreign companies (often US-based)⁵ seemed to have great influence on the competitive conditions and conditions of performance and thus also on the emergence of the relationship between top team aspects and firm performance in the sample/population studied.

At this stage of the study/analysis subsidiaries of foreign companies (10 companies) were also included to provide deeper insight into strategy and operations as well as the backgrounds and initiation conditions of foreign companies entering Finnish/European markets (often by acquiring a Finnish technology company). Great differences were identified in the strategies operations and organizational behavior of the foreign companies compared with their Finnish competitors. The differences in behavior, organization, and development seemed to originate in the different initiation and growth conditions of those companies.

The concluding presentation/construction was prepared to demonstrate an overview of the various growth paths and initiation and development conditions of companies in Finland compared with their competitors (most often US-based) entering the same markets. In addition, the construct described interdependence of those paths and competitive conditions of companies in the markets. The presentation also included a demonstration of the emergence and existence of identifiable relationships between top team aspects and firm performance and growth in the sample as well as on the case level.⁶ Appendix 1 presents a summary of the perceived differences in the formation and development paths of the businesses and their teams and of the differences in the perceived social conditions underlying development.⁷

⁵ 'US-based companies' refers to companies founded and/or strongly involved in and utilizing the accumulated institutional and physical conditions (e.g., customer and financial markets) of the United States.

⁶ The presentation summarized, for example, that in those accumulated conditions, there was a greater chance to identify the link between team aspects and firm growth within the companies focusing on domestic markets and utilizing/launching strengthening international products/services than among those companies that sought to enter the international markets purely with their own products.

⁷ The first draft of the construction was presented at a doctoral research seminar at the Center for the Doctoral Program of the Helsinki School of Economics on December 14, 1999. The title of the presentation was the following: "What is the global competitiveness of Finnish technology-based companies? Where are we coming from and where are we going – Examples of the initiation and growth paths of companies and how companies are facing competition and competitors in the markets." The presentation was made in Finnish and titled "Mikä on suomalaisten teknologiayritysten globaali

The construct was represented and tested in eighteen companies.⁸ Eleven of them represented the companies of the original survey sample and five of them the subsidiaries of foreign companies. It was also tested in two multinational companies thought to have a broad view of the emerged competitive conditions. The feedback supported the relevance of the construct, which represented the emerged competitive conditions of the new business organization and development, including the formation of top management teams and the possible emergence of a relationship between team demographics, processes, and firm performance and growth in the industry/field studied.⁹

Further reasoning

The construct led us to several further notions, questions, reasoning and theorization, which are presented in this paper.¹⁰

The first notion was that Finnish entrepreneurs and managers need to increase their knowledge and skills and competitiveness in entrepreneurship and business venturing in order to be able to form successful top management teams with specific demographics, structures, and processes linked positively to performance and growth. This sounded reasonable. For a long time we had been developing our companies, entrepreneurship, and business skills, and also our innovation system, which seemed competitive with the variety of services it provides.

But exactly what knowledge and skills do entrepreneurs and managers need to develop/improve? When we went more deeply into the competitive conditions, it sounded reasonable that we needed to learn, for example, how US companies (which enter the same markets and seem to weaken the chance for the emergence and existence of relationships between team aspects and firm performance and growth) and their teams form and develop and which are their conditions of organization and development. This also sounded plausible. We had already been doing this to some extent.

But when we went still more deeply into a description of the differences in the competitive behavior and development and especially the differences in the social/institutional/physical conditions that provide new business organizations and teams with specific demographics, resources, structures, processes and the emergence and existence of a relationship between team aspects and firm performance and growth, we discovered a big difference and challenge. There are significant differences in the business formation and development and the conditions and settings providing/supporting it. (On the other hand, there are differences in the dynamics and restructuring of industries; on the average, the Finnish system seeks to provide and sustain more static structures than the US system). We could argue that on average there are differences in the importance and meaning of entrepreneurship and

kilpailukyky? Mistä tullaan, minne ollaan menossa? Malliesimerkkejä yritysten synty- ja kasvutarinoista ja kilpailijoiden kohtaamisesta markkinoilla.”

⁸ The construct was tested in eighteen companies between December 1999 and February 2000.

⁹ Based on the construct and study data, two working papers were also written: Handelberg, Tainio & Tienari (2000) Capital-Market-Driven Shift Toward the New Economy: Who will Survive in the New Game? and Tainio, R., Handelberg, J. & Tienari, J. (2001) The New Game, a paper presented at the Scancor seminar at Stanford University, USA, October 10th 2001.

¹⁰ The reasoning and further theorization started from the survey and interview studies and the theorization and testing have developed since then; work with entrepreneurs and entrepreneurship development in practice continued at the same time. This paper concludes the theorization made over the last ten years. Although the starting point and study data of the theorization date from the time of the techno boom followed by the techno bubble (which was later followed by an extensive worldwide economic upturn and again followed by world financial crises), the notions, observations, questions on which the theorization is based have continued to exist in practical management and policy-making and have become even more acute today.

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entrepreneurial teams in the US compared with Finland and thus also differences in the shared behavior, intent, acceptance, and allocation of resources for organization and development of new (and renewed) businesses and the teams contributing to them. This led us to focus on the institutional and physical conditions and their role in business organization, formation of entrepreneurial top management teams, dynamics of industries/markets and the emergence and existence of a link between team aspects and firm performance and growth.

The next quotation is from an interview with a Finnish top manager, who was first responsible for a young Finnish company competing against a young US company that was entering the European and Finnish markets and later on the same “side,” after acquisition of the Finnish company by the US competitor, describes the difference as follows:

“They [US companies and people] come from a different culture, let’s say from a different reality, which strongly values individual consumption, entrepreneurship, earnings, and growth businesses and at the same accept the huge dynamics, competition, and also the huge uncertainty of a society that is constantly identifying new opportunities for new products, services, consumption, businesses and earnings and allocating thinking, working, money, managers, and risk-taking accordingly... It takes some time to learn how they think and work, but after having also worked and lived in the United States, you realize that actually there you have to work like that, since there is no other way to survive ... Our [Finns] normal thinking and behavior is not consistent with theirs.”

This quotation is only one example of how differences in the conditions of foundation and development were seen and felt; they do not fully represent either the views and feelings of Finns or the conditions and culture of the United States. US conditions seem to differ from our social conditions, collective behavior, system, and culture (in contents and meaning). Our [Finns] behavior and thought and organization and development and dynamics seem to be to some degree inconsistent with that system. From the US perspective, our entrepreneurial behavior and thinking are easily perceived as not really eager and serious, and to some degree naive and overoptimistic.¹¹

The situation would be challenging for Finnish entrepreneurs (and Finns in general) and also with respect to motivation theory and resource allocation if the competitive environment developed as described in the interviews (toward the US type of environment). Psychologists provide convincing evidence that people are motivated to obtain (among other things) positive evaluations of themselves and the groups to which they belong, favorable public images, consistency among their cognitions, and benign beliefs about the world in which they live (e.g. that the world is just). In addition to this motivation, theories contend that the motivation and allocation of the resources of individuals or groups of individuals are related to the competence experienced in their task/environment (cf. Lewin et al., 1944). The motivation and allocation of resources in terms of the level of aspiration is raised following success and lowered following failure. From the perspectives of motivation and individual resource allocation, specific entrepreneurial behavior is carried out with ever higher goals when individual or group of individuals are in an accumulated position where they feel that they are playing a strong, persuasive role in the entrepreneurial organization, i.e. they negotiate new systems of meaning in the course of social interaction within the defined framework of values (cf. Schumpeter, 1934). If not, an effort is made to allocate the behavior and resources to lower goal level, in another direction, or for a purpose were competence is experienced.

¹¹ This notion emerged in five interviews and also in three unofficial discussions with representatives of US companies and venture capitalists.

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In addition to the quotations on the basic arguments for the motivation theories, the above notions and reasoning led us to a number of counter-arguments/questions.¹² Why should we learn about their (the US) system and from them? Why we should be consistent and competitive in terms of their system and practice? Why does it seem that we need to adapt and refer more to their system than they need to adapt and refer to our system to be competitive in the markets? What is this all about? So far we have been good, knowing, and skillful without any direct comparison with US ventures and their initiation and development conditions. We have chosen to compare our companies and their conditions with the countries and cultures that are closer to our system. And we have been a very competitive country as statistics and research still show.¹³ It would be more relevant to forget the comparison with US-based companies and their formation and development conditions and look for companies and conditions that are closer to our system and culture.

But the question still remained, why are they here and meaningful to us? How and why do companies from such a distant culture and conditions compared with ours either acquire our companies or disrupt the market and force them into developing by increasing competition and at the same time reducing the chances for the emergence and existence of a positive relationship between our team aspects and firm performance and growth. Meanwhile, they are reducing the meaningfulness of the formation and development of our teams with specific demographics, structures, and processes. The competitiveness of our business formation and development and the emergence and existence of a link between the demographics, resources, structures, and processes of top teams and firm performance and growth seem to depend substantially on success of the very same competitive environment and competitors even though they are socially and culturally distant from our society and conditions. This would mean, on the other hand, that demographic factors like education, experience, and joint experience, team structures and processes are closely related to successful organization and development in that context – otherwise they would not be meaningful. What is forcing us to adapt and change?¹⁴ This led us to focus on international institutional and physical developmental conditions in addition to national, institutional, and physical conditions providing the conditions of organization, performance, and relationships.

In addition, the above reasoning also generated a number of other, more philosophical questions. What are relevant entrepreneurship and business knowledge and skills in practice? Who can be a good entrepreneur and business man/women and member of a top team in a successful business? What are knowledge and skills, in general? What is right and what is wrong? What is development? What is underdevelopment? We [Finns] have been good, knowing, and skillful. For example, the results of the OECD program for international student

¹² The generation of questions and counter-arguments was accelerated while at the same time entrepreneurial development programs were being carried out in Finland – even in primary schools. The following are examples of valid questions raised by teachers: “why do we talk so much about entrepreneurship while ten to fifteen years ago we did not talk so much about entrepreneurs and entrepreneurship in schools?” and “why does it seem that the entrepreneurship we are talking about today is different from that we talked about several years ago?”

¹³ Finland’s GNP rose steadily from 1993 until the end of 2000 at an average of more than 5 percent per annum (source Statistics Finland). The World Economic Forum ranked Finland number one in competitiveness in 2000 and the IMD World Competitiveness Yearbook 2000 ranked Finland number three. After ten years rank has weakened but is still very high. The World Economic Forum rank Finland number four in 2011–2012. World Competitiveness Yearbook 2011 ranked Finland number 15.

¹⁴ The situation seemed to correspond closely to Festinger’s (1959) cognitive dissonance and also forced compliance theorems, which suggest that when people are induced to behave in ways that are inconsistent with their beliefs, an uncomfortable psychological tension is aroused. This tension will lead people to change their beliefs to fit their actual behavior, rather than the other way around, as popular wisdom may suggest.

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assessment (PISA) rank the performance of Finnish students very high indeed.¹⁵ Entrepreneurship, business, and commercialization of our technology and scientific inventions are the specific areas in which we need to increase/improve our knowledge and skills.¹⁶

But we [Finns] have already long provided applied entrepreneurship and business knowledge and skills relevant to our culture and conditions. Why should our behavior, thought, organization, and development be compared with those of firms operating competitively in international markets? It would mean a need to change our behavior and thought, organization, and development, which would in turn call for changing the whole system. What is this all about? This led us to a more in-depth analysis and theorization/explanation and hypotheses on the organization, development, and relationships in general and the formation of business organizations and teams and the emergence and existence of specific relationships between team aspects and firm performance and growth in particular. We drew from institutional theory and analysis because they provide a dynamic framework able to combine local micro conditions and wider macro conditions of organization, performance, and relationships.

The purpose of this paper is to develop a general model of institutions, organization, and the emergence and existence of the relationship between top team demographics, structures, processes and firm performance and growth. My aim is to build consistency between different theories and views of firm growth, to clarify basic issues, to suggest possible implications, and by so doing, to facilitate continuing dialogue among scholars. The model is intended to further our theoretical and practical understanding of organization, teams, and the performance and growth of firms as well as to inform management practice and policy-making.

Institutional theory builds on the accumulated institutions and institutional conditions and settings (i.e., the conditions of meaning and action) that explain individual and collective behavior, organizations, and the wider development of the society.¹⁷ Institutions are

¹⁵ Finland has ranked among top countries in the world. Among the OECD countries it has been number one in every year (2000, 2003, 2006, 2009) the PISA assessment has been carried out.

¹⁶ In the Global Entrepreneurship Monitor 1999, the Entrepreneurial Activity Index indicated important differences between individual countries. Whereas in Finland, only 1.4% of the working-age population was actively starting a new business, the corresponding figure for the USA was 8.6%, over five times greater, demonstrating a very significant level of variation. Although the Entrepreneurial Activity Index of Finland has risen to 5.7% in 2010, it is still significantly lower than in the USA or several other developed countries. What is remarkable, too, is that the share of highly innovative early-stage entrepreneurial activity in Finland is clearly lower than the average in innovation-driven economies. New Finnish entrepreneurs only rarely manage to introduce products and services that are new to all customers and they do not face direct competition. In 2010, roughly only one-fifth of the early-stage entrepreneurial activity was highly innovative. Besides, early-stage established entrepreneurs in Finland have significantly lower growth expectations. The percentage of high-growth entrepreneurs in Finland is clearly lower than in the other Nordic countries. In 2002–2010 approximately 5.5% of the early-stage entrepreneurially active individuals had high growth expectations. The percentage of entrepreneurs with high growth expectations in 2008–2010 is lower than in the beginning of the 2000s. These continuously low growth expectations pose challenges for increasing employment in Finland. Autio (2009) coined the term “Finnish paradox” to describe Finland’s substantial investments in science and R & D, but relatively weak results in high-growth entrepreneurship and commercialization of outcomes. Murray, Hyytinen and Maula (2009) raised the issue of the inability of Finns to create/negotiate global insights in the markets to explain the relatively weak performance of the Finnish innovation system.

¹⁷ For example, Ahlstrom and Bruton (2006), and Bowen and De Clercq, (2008) have utilized institutional theory in their studies in the area of entrepreneurship. Most recently, Welter (2010) argued that context and contextualizing are important for understanding when, how, and why entrepreneurship happens and who becomes involved.

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conceptualized as “the rules of the game in a society” (North, 1990). They are subtle but pervasive, and strongly influence the goals and beliefs of individuals, groups and organizations (Scott, 2001). Institutional theory focuses on the deeper and more resilient aspects of social structure. It considers the processes by which structures, including schemas, rules, norms, and routines become established as authoritative guidelines for social behavior (Scott, 2001). The various components of institutional theory explain how these elements are created, diffused, adopted, and adapted over space and time and how they fall into decline and disuse.

The flourish of institutional theory has its roots in the open systems theory that transformed existing approaches to organizations during the mid 1960s by insisting on the importance of the wider context or environment as it constrains, shapes, penetrates, and renews the organization (see Katz and Kahn, 1966; Scott, 1998). First to be recognized was the technical environment – resources and task-related information – as the organization was conceived primarily as an instrumental production system, transforming inputs into outputs. Only later, during the mid–1970s, did investigators begin to recognize the significant effects on organizing associated with wider social and cultural forces: the institutional environment. Organizations were seen to be more than production systems; they were social and cultural systems; i.e. a part of evolving culture and cultural development or a part of society and its development.

From the perspective of this study, it is important to identify the concrete institutional/physical (material) development to which the observable conditions of organization and relationships, and the importance and meaningfulness of the entrepreneurial team phenomena and firm growth and the diffusion thereof are related. Why have they become important and meaningful and do they remain so? Why do they seem to be important and meaningful, but distant from us? Have we missed some development? Have we accepted some development passively? Have the institutional conditions developed and even entered the stage where the only meaningful, rational and economical behavior, thought, organization, and development are related to the contribution of those institutions (even if we do not like it)? We argue that institutional theory and analysis could help us, first, to provide an understanding of the emergence and existence and spread of the meaningfulness of the phenomena of new business organizations and entrepreneurial teams, and second, to create further theory on efficient and economic identification, organization and the development of new business organizations and the efficient and economic formation and development of teams with specific demographics, structures, and processes supporting and linked to the performance and growth of new business organizations.

The rest of this essay consists of the following parts. First, we review the basic elements of institutional theory and provide the foundation for understanding an organization and agents as part of institutional/physical (material) conditions and development contributing to them. Second, we generate a theory and propositions concerning the institutional/physical conditions needed for specific business organizations and entrepreneurial top teams to form and develop, and for the relationships between team aspects and firm performance and growth to emerge and exist. Third, we create an overall developmental trajectory of historical and institutional conditions and a description of the overall position of the sample studied within them to illustrate the specific formation and development of teams and businesses and to demonstrate the emergence and existence of the link between team aspects and firm performance and growth. Finally, some applications and implications of the model are described. In particular, the applications of institutional theory and analysis to the development of single business undertakings and teams and also population level development are discussed.

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INSTITUTIONAL THEORY

Scott (2001) states that social action is always grounded in social contexts that specify valued ends and appropriate means; action acquires its very reasonableness from taking into account these social rules and guidelines for behavior. He adds that although the capability of managers and teams to achieve firm outcomes and performance has been emphasized, rational managerial behavior always takes place (and is carried/empowered/constrained) within the specific accumulated institutional environments. Scott concludes that institutional rules set the limits within which strategic behavior occurs. Moreover, the shared institutional framework provides the meaning for specific strategic acts and organization. No specific strategic acts and organization take place if there is no shared institutional framework with the necessary incentives. Specific accumulated, shared institutional contexts and settings are needed for specific behavior, organization, development, and performance to exist. From the perspective of this study, it is now important to provide an overall theoretical framework for understanding and analyzing institutions and institutional development. The framework will help us to identify and understand the development and diffusion of institutions and meanings and thus the concrete shared behavior, thought, and organization that are necessary for the emergence and reproduction of top teams and their demography and the processes contributing to firm performance and growth.

While the new institutional economics (e.g. Williamson, 1975) emphasizes the role of management in making choices between alternative generic forms of governance - markets, hybrids, and hierarchies, and the strategists (e.g., Child, 1972) emphasize the will and capability of managers to both design their organization and enter into negotiations with environmental actors in order to alter that environment, the institutionalists emphasize the accumulating, often at least partially unconscious, taken-for-granted conditions/environment in which specific "economic" behaviors, decisions and organization, developments and relationships take place and are carried forward (Scott, 2001).

Every organization is a subsystem of "a wider social system which is the source of the 'meaning', legitimation, or higher-level support which makes the implementation of the organization's goals possible" (Parsons, 1960:63-63). The capabilities and preferences that are the very nature of the actors cannot be understood except as part of some larger institutional framework (Krasner, 1988: 72). Peter Berger, John Meyer, and Lynne Zucker stress the centrality of the cultural-cognitive elements of institutions: the shared conceptions that constitute the nature of social reality and the frames through which meaning is made (Scott, 2001:50). Institutions impose restrictions by defining the legal, moral, and cultural boundaries setting off legitimate from illegitimate activities. But it is also essential to recognize that institutions also support and empower activities and actors. Institutions provide guidelines and resources for acting as well as prohibitions and constraints on action. (Scott, 2001).

Institutions can be formal or informal. Scott (2001) categorized formal and informal institutions into normative, regulatory, and cognitive groupings. The most formal are the regulatory institutions. These represent the standards provided by laws and other sanctions. Normative institutions tend to be less formal, and they define the roles or actions that are expected of individuals. Normative institutions often manifest themselves through accepted authority systems such as accounting or medical professional societies. Sometimes they are codified; at other times they are the understood practices of a profession or work function. Finally, cultural-cognitive institutions represent the most informal, taken-for-granted rules and beliefs that are established among individuals through social interactions among various participants and that guide behavior. A community's culture is a principal means through which cultural-cognitive and less formal normative institutions propagate and influence a society (Jepperson, 1991; Scott, 2001).

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Culturally-embedded values, norms, traditions, conventions, customs, sanctions, taboos, and codes of conduct form the informal institutional constraints and incentives that shape human and organizational behavior. Informal institutions provide human actors with a taken-for-granted mental framework that extends, elaborates, modifies, and complements the formal institutional rules of the society (North, 1990). Since informal institutions evolve gradually along with national cultures, they provide the continuity and path-dependence that connects a society's present to its history as well as to its future. Thus, informal institutions tend to be more durable than formal institutions, which may be replaced overnight for example by new legislation and regulation, wars, or revolution (North, 1990). Since informal institutions are deeply-embedded in a society's cultural heritage it is difficult to understand them from the outside.

Formal institutions consist of political, juridical, and economic rules that complement and increase the effectiveness of informal institutions. The hierarchy of formal institutions extends from constitutions to statutes and common laws, and further to government regulation, collective labor market agreements, and individual contracts. Thus, changes in formal institutions may originate from many different sources: legislatures and governments, regulatory agencies, collective bargaining, and contracting organizations (North, 1990).

Although rules, norms, and cultural beliefs are the central ingredients of institutions, they must also encompass associated behavior and material resources. Although an institutional perspective gives heightened attention to the symbolic aspects of social life, we must also attend to the activities that produce and reproduce them. Rules, norms, and meanings arise in interaction, and they are preserved and modified by human behavior. The Giddens (1979; 1984) formulation usefully stresses the "duality" of social structures, encompassing both the idealist and material features of social life and highlighting their interdependence. Although institutions represent continuity and persistence, they exist only to the extent that they are carried forward by individuals: "Institutions exist in the integrated and standardized behavior of individuals" (Hughes, 1939: 319).

As Parsons has noted, shared informal institutions can be found at all levels of the economic system (Parsons, 1960): organizational sub-units (working methods), firms (organizational routines and standards), corporations (corporate culture), industrial sectors (industry "recipes"), and nations (national culture, its customs and behavioral norms). Scott (2001) adds that institutions can exist even at world-system levels. One of the most wide-ranging and well-known studies of this type at the world-system level is the historical (process) account provided by North and Thomas (1973) of "the rise of the Western world." From the perspective this study, the issue of business and related phenomena can be found all over the world, thus reflecting institutionalized phenomena at the world system level.

Although it is conventional among macro scholars to characterize such systems as operating in the organization's environment (see Zucker, 1987), it is important to recognize that these systems are carried in the minds of individuals. They exist not only as "widely held beliefs" in the wider environment or as laws that organizational actors need to take into account, but also as ideas or values in the heads of organizational actors. Scott (2001) states that indeed, attending to this connection is one of the vital ways in which institutional analysis can help to link the work of micro and macro organizational scholars. Tiny changes in what individuals widely accept and aim for can be identified in the great differences that exist in organization and development on the macro level. On the other hand, those developed, institutionalized macro conditions greatly shape what is appropriate, acceptable, and possible for a single individual in the next phase.

To an institutionalist, knowledge of what has gone before is vital information. The ideas and insights of our predecessors provide the context for current efforts and the platform on which we necessarily craft our own contributions (Scott, 2001). Institutions do not emerge in a

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vacuum; they always challenge, borrow from, and, to varying degrees, displace prior institutions. Institutions ride on various conveyances and are instantiated in multiple media. These institutional carriers vary in the processes they employ to transmit their messages. In addition, institutions operate at multiple levels, from the world system to interpersonal interaction.

The organizing scheme of institutions proposed by Scott (2001), that is the regulatory, normative, and cultural-cognitive institutional pillars, are not undisputed (e.g., Hirsch and Lounsbury, 1997). However, the scheme has been widely used and has proved helpful for analytical purposes and will also be used here. Additionally, the conceptualization of institutions as formal and informal is also useful for describing environmental settings and discussing different institutional effects and is employed here.

Legitimacy

The term or concept legitimacy is the central concept related to institutional theory and a condition and development of organization. "Organizations require more than material resources and technical information if they are to survive and thrive in their social environments. They also need social acceptability and credibility" (Scott et al., 2000:237). Suchman (1995) defines legitimacy as follows: "Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (p. 574). Legitimacy is a generalized rather than an event-specific evaluation and is "possessed objectively, yet created subjectively" (p. 574).

Myer and Scott (1983) propose that "organizational legitimacy refers to the degree of cultural support for an organization" (1983:201). Stinchcombe (1968) asserts that in the end, whose values define legitimacy is a matter of concerted social power. A cultural-cognitive view stresses the legitimacy that comes from adopting a common frame of reference or definition of the situation. It is important to note that in terms of organization, one has to know/adopt a common frame of reference or definition of a situation to organize legitimately in that situation. Otherwise, one is not seen or rather felt to be knowing, skillful, and capable of strategic and operational action in this situation. The reason why one does not feel oneself to be knowing, skillful, and capable in a given situation may be difficult to ascertain, since the assessment may be based on un/preconscious, taken-for-granted understanding. The cultural-cognitive mode is the "deepest" level because it rests on unconscious, taken-for-granted understandings.

Agency

Throughout the history of social science, there has existed a tension between those theorists who emphasize structural and cultural constraints on action and those who emphasize the ability of individual actors to "make a difference" in the flow of events (Scott, 2001: 75). Scott (2001) adds that institutional theory obviously seeks to account for continuity and constraint in social structure, although that need not preclude attention to the ways in which individual actors take action to create, maintain, and transform institutions. More recent work in the area of institutions, including that of both DiMaggio (1988; 1991) and Powell (1991), gives more attention to the ways in which both individuals and organizations innovate, act strategically, and contribute to institutional change (see Oliver, 1991; Christensen et al., 1997).

The work of Anthony Giddens (1979, 1984) on structuration has provided a productive framework for examining the interplay between these forces. Structuration is the term coined by Giddens to remind us that social structure involves the patterning of social activities and relations through time and across space. Social structures exist only as patterned social

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activities, incorporating rules and resources that are reproduced over time. Giddens (1984) envisions what he terms the “duality of social structure,” recognizing it to be both the product of and the platform for social action. They exhibit a dual role in that they are “both the medium and the outcome of the practices they recursively organize” (p. 25). Individual actors carry out practices that are simultaneously constrained and empowered by existing social structure.

Structuration theory view actors as creating and following rules and using resources as they engage in the ongoing production and reproduction of social structures. Actors are viewed as knowledgeable and reflexive, capable of understanding and taking account of everyday situations and of routinely monitoring the results of their own and others’ actions. Agency refers to an actor’s ability to have some effect on the social world, altering the rules or the distribution of resources. The presence of agency presumes a non-determinant, voluntaristic theory of action: “to be able to ‘act otherwise’ means being able to intervene in the world or to refrain from such intervention, with the effect of influencing a specific process or state of affairs” (Giddens, 1984:14). Although all actors, both individual and collective, possess some degree of agency, the amount of agency varies greatly among both them and types of social structures. Agency itself is socially constructed.

Weick (1979; 1995) emphasizes that understandings and scripts not only guide actions, but also emerge out of them, and that collective symbols are just as likely to be used to justify past behaviors as to guide current ones. Newer versions of role and cultural theory view individuals as playing an active part, using existing rules and social resources as a cultural “tool kit” for constructing strategies for action (Swidler, 1986). From the viewpoint of this study, it is important to understand and track the institutional developmental conditions and settings where individuals -playing an active part- have led to the emergence and reproduction of specific business organizations and entrepreneurial teams contributing to them.

Carriers and levels of institutions

Institutions, whether the regulative, normative, or cultural-cognitive elements are stressed, are embedded in various types of repositories or carriers (see Jepperson, 1991: 150). Scott (2001) identifies four types of carriers: symbolic systems, relational systems, routines, and artifacts. The recent conceptions of culture stress symbolic schemata that include models, classifications, representations, and logics (Jepperson and Swidler, 1994:361). All can be examined as social phenomena external to any specific actor, but also as subjective, internalized cognitive frames and beliefs.

Institutions are described as capable of operating within organizational subunits whereas others function at levels as broad as that of world systems (Scott 2001). Economic historians focus on the macro levels, examining the origins and functions of transnational and national rules and enforcement mechanisms that are developed to regulate the economic behavior of firms and individuals. Historical institutionalists emphasize the study of regulatory regimes and governance mechanisms that operate at the societal and industry level.

Zucker (1977) observed that “institutionalization is both a process and a property variable” (p. 728). That is, for some purposes, we treat an institution as an entity, as a cultural or social system characterized by one or more features or properties. In this case we are interested in the accumulated institutional conditions empowering and constraining new or renewed business organizations and teams. On other occasions, we are interested in institutionalization as a process, as the growth (or decline) over time of cultural-cognitive, normative, or regulative elements capable, to varying degrees, of imparting meaning and stability (and also change and even chaos) to social behavior. In this respect we are interested in the process of how a specific institutional condition has diffused and strengthened.

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The process theories deal with “a series of occurrences of events” (Mohr, 1982:54). In process theories, time is of the essence, in particular, the time ordering of the contributory events. “In a process analysis, events are represented as taking place sequentially in real time” (Langlois, 1986:7). Process theories vary in their degree of formalization. Most often, a process argument is a historical account: a narrative frequently consisting of “stage-naming” concepts that provide a description of a sequence of events.

One of the best-known studies of this type at the world-system level is the historical (process) account provided by North and Thomas (1973) of “the rise of the Western world.” These economic historians argue that economic growth will not occur unless there are mechanisms that closely align social and private rates of return. Individuals will be motivated to undertake socially desirable activities only if they provide private benefits that exceed costs. This situation, in turn, requires the establishment and enforcement of the appropriate property rights.

Creation and diffusion of institutions

Suchman (1995) provides an illuminating general discussion of conditions giving rise to new institutional arrangements. He suggests that the impetus for institutional creation is the development, recognition, and naming of a recurrent problem to which no existing institution provides a satisfactory repertoire of responses. These cognitive processes can be viewed as giving rise to collective sense-making activities (Weick 1995), as actors attempt to understand and diagnose the problem and propose what are, at the outset, various ad hoc solutions. Once these responses have been “generalized into solutions,” it may be possible for the participants to engage in “a more thoroughgoing ‘theorization’ of a situation – in other words, to formulate general accounts of how the system works, how it should work and, in specific, of which solutions are appropriate in which contexts” (Suchman, 1995:43). Solutions generated in one context may then diffuse to other situations regarded as similar. Suchman’s discussion builds from Berger and Luckmann’s (1967) general formulation of institutionalization.

The diffusion of institutions across space or time has double significance in institutional analysis. First, diffusion of a set of values, rules, or structural forms is often taken as an indicator of the extent of the strength of an institutional structure. In this sense, studies of institutional diffusion may be regarded as studies of increasing institutionalization. Second, because the diffusing elements are adopted by and incorporated into organizations, studies of diffusion are also properly treated as studies of institutional effects. In such studies, it is often argued that early or later adoption follows different principles because of the changing strength of the institutions and also because of the varying characteristics of the adopting organizations.

Several distinctions are helpful in understanding the various ways in which institutions are diffused. DiMaggio and Powell’s (1983) useful typology focuses attention on three contrasting mechanisms – coercive, normative, and mimetic – that identify varying forces or motives for adopting new structures and behaviors. Other analysts, such as Brown (1981), distinguish between demand- and supply-side explanations of diffusion.

Strang and Meyer (1993) stress the centrality of cultural-cognitive elements in institutional diffusion processes. They argue that diffusion is greatly affected by various theorization processes. For diffusion to occur, the actors involved need to regard themselves as similar in some important respect (the creation of categories such as the generic organizations or specific subtypes facilitates this process; i.e. we need new entrepreneurial firms since they generate most of the new jobs and pursue product markets in the future). Theorization also provides causal accounts - explanations of why some kinds of actors need to add specific components or practices (for example why individuals, organizations, regions, and nations must become more entrepreneurial). It contributes to objectification, a growing “consensus

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among organizational decision-makers/stage-holders concerning the value of a structure, and the increasing adoption by organizations on the basis of that consensus” (Tolbert and Zucker, 1996:182).

Many institutional scholars have studied the diffusion of ideologies or belief systems, forms, or archetypes – conceptions about how to organize – and processes of procedures. The central notion is that nothing is as portable as ideas. They travel primarily by cultural carriers, although they also are conveyed by relations and artifacts. And although they may circulate via specific social networks, they also ride on more generalized media (Scott 2001).

Innovations with public consequences are mainly adopted when information and imitative are uniformly distributed around the world. This process is most effective when norms, values, and expectations about certain forms or practices become deeply ingrained in society – institutionalized – and reflected widespread and shared understandings of social reality (Meyer and Rowan, 1977: 343) as for example the rapid spread of mass education, social security systems, and models of nation-states among the world’s political states (Thomas et al., 1987).

Another, lesser influence on innovations with public consequences is the effect of media (Obershall, 1989; Weimann and Brosius, 1994). Media become a channel of influence for adoption primarily when the innovations are popular, well-defined societal issues (for example the Internet and mobile telephones). Media effects support the role of institutionalization, spreading information about those institutionalized practices that captivate public interest. As Uhlin (1995) argued in his study on the diffusion of democracy models, media are effective in providing information about innovations with public consequences, but the persuasive role in the adoption of innovation is played by country-to-country interaction. There would be limited interest in adoption for example of democracy if the democracy models were not institutionalized.

DiMaggio and Powell (1983) astutely observe that the nation-state and professions “have become the great rationalizers of the second half of the twentieth century” (p. 147). Other scholars point out the increasing importance of wide array of international actors – professional and scientific associations, non-governmental organizations, and multilateral agencies – that operate at a level above individual societies. Finally, cultural frameworks provide an important, newly recognized source of institutional influence. From the perspective of this study, different agents may have different roles, angles, and interests in institutional development. The role and interest of a single state may be different from international actors, for example transnational corporations.

States have the capacity to “define and enforce property rights, [that is], the rules that determine the conditions of ownership and control of the means of production” (Campbell and Lindberg, 1990:635; see also Campbell, Hollingsworth, and Lindberg, 1991). Labor laws, for example, affect what rights workers have to take collective action, and antitrust laws limit concentration of ownership and activities that constrain competition. The capacity to create and transform property rights is merely a special case of the power vested in institutions to constitute actors, both individual and collective. For economic actors, property rights are among the most fateful and significant rights to be conveyed. Equally important are the rules established by nation-states to define political rights accorded to citizens and interest groups. As institutional structures, arenas, and definers of property and political rights, states exert primarily cultural-cognitive effects on organizations and organizational systems (see Scott, 1994; Suchman and Edelman, 1997).

Joining nation-states and professions as important institutional actors exercising normative and regulative authority is an increasingly diverse array of organizations and associations operating at the international level. The dominant global actors (institutions) in the

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contemporary world, in addition to nation-states, include transnational corporations and international nongovernmental organizations (INGOs). Meyer et al (1997) argue that all of the collective actors – such as nation-states, professions, transnational corporations, international new ventures, and INGOs – are themselves a product and serve as carriers of broader, worldwide cultural frameworks supporting rationalization activities of many types. They function less as independent agents and more as enactors of social scripts.

Meyer and colleagues develop their arguments at the world-system level, attempting to show that some of the ostensibly most powerful and autonomous actors, such as nation-states, are constituted by cultural forces. They argue that nation-states follow blueprints developed and promulgated at the level of the world system. How else can the isomorphism of nation-states be explained, the extent to which national societies claim the same prerogatives and exhibit similar structures despite widely varying histories, economic circumstances, geography, and demographic composition? Numerous studies by Meyer and colleagues show that nation-states that have more ties to the world system (for example, more connections to INGOs) are more likely to exhibit structures and processes associated with modernity (Meyer et al., 1997). In this study we are interested in the diffusion and adaption of structures and processes empowering and constraining new business venturing.

Similarly, although the global environment is increasingly traversed by a complex mix of transnational actors – businessmen, financiers, scientists, and activists, as well as a growing number of INGOs – these individual and collective actors can be viewed as carriers of global cognitive-cultural elements including the taken-for-granted entrepreneurial organization or the split of actors into those who favor globalization and those who fight against it. As Meyer (1994) asserts, “this environment functions less as a coherent rational superactor (e.g., a tightly integrated state of highly coordinated invisible hand) than as an evolving set of rationalized patterns, models, or cultural schemes” (p. 33). These organizations do not command and control, but rather inspire and inform.

Most analysts embrace a “top down” approach, emphasizing the role of global institutions, nation-states, or professional groups in shaping field definitions. Meyer (1977), for example, argues that widely held cultural beliefs operating at the world-system level provide much structure and support to educational systems in specific societies and account for much of the uniformity and coherence observed within this field. Meanwhile, it is obvious that governance systems for society as a whole will influence governance systems for sectors in that society. Social policies, such as equal employment opportunity or occupational safety controls, tend to be applied broadly across sectors (Wholey and Sanchez, 1991).

On the other hand, a “bottom up” approach emphasizes the role and capability of nations, fields, organizations, or even groups of individuals to identify regional, national, and even international institutional opportunities and to be involved in and contribute to international organization and institutional development.

Biggart and Guillén (1999) contrasted paths of economic development in four countries - South Korea, Taiwan, Spain, and Argentina - focusing on the automobile assembly and components industries. They propose that these divergent paths of economic development can be explained by taking account of a society’s distinctive institutional pattern of organizing and the opportunities made available by global markets. As a result of its distinctive historical development, each society acquires a set of organizing logics: beliefs, norms, routine practices. These logics (see also Whitley’s recipes, Whitley, 1992) are systems of internally coherent ideas that (a) inhibit the development of alternative models, even if they are “more efficient,” and (b) provide “repositories of distinctive capabilities that allow firm and other economic actors to pursue some activities in the global economy more successfully than others” (p. 726).

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Institutions and performance

The institutions provide the framework of what is intended, accepted, and allowed (i.e. what is meaningful). They also provide the framework of what is performance (or high performing). Performance is related to institutionalized values, norms, and regulations. The level of performance is related to the contribution (and the contributive position) to those institutions/institutional opportunities. The logic underlying the level of performance is that one must contribute to (carry out) the widely held institutions and institutional opportunities in order to be meaningful and supported by others and capable of a high level of performance.

The dilemma is that when one does not represent and is not involved in the widely held institutions and institutional opportunities (intentions, acceptance and allowance; contents, agents), and does not share the widely held institutions and institutional opportunities, one does not contribute strongly to those institutions, even if there is strategic intent to do so; does not feel competent and strongly supported by others and motivated in those institutional conditions; and does not perform at a high level. In sum, one is not reasonable, meaningful, legitimate, efficient, and economical in terms of what is widely intended, accepted, and made possible. However, one may still feel that the adoption of specific institutions is a requirement.

In the early stages of an institutionalization process, adoption of the practice by individuals, groups of individuals, organizations, fields and/or societies represents a choice (or perceived opportunity) on their part, which can reflect their varying specific needs or interests. As the institutionalization process proceeds, normative and cultural pressures mount to the point where adoption becomes less of a choice and more of a requirement. Differences among individual organizations are of less consequence when confronted by stronger institutional imperatives. Although in one sense, the logic of action has shifted from one of instrumentality to appropriateness, in another sense, the situation confronting each organization has changed so that it is increasingly in the interest of all to adopt the practice.

Tolbert and Zucker (1983) interpreted weakening correlations as evidence of the development of widespread and powerful cultural norms (and order) supporting civil service reform, so that all cities were under increasing pressure to adopt the reform, regardless of their local needs or circumstances. Whereas ecologists proposed that isomorphism resulted from competitive processes, as organizations were pressured to assume the form best adapted to survival in a specific environment (see Hannan and Freeman, 1989), neo-institutionalists emphasized the importance of social fitness: the acquisition of a form regarded as legitimate in a given institutional environment. DiMaggio and Powell (1983) reinforced this emphasis on institutional isomorphism, focusing attention on coercive, normative, and mimetic mechanisms that “make organizations more similar without necessarily making them more efficient” (p. 147).

Carroll and Hannan (1989) were the first to provide a theoretical interpretation of this empirical finding, arguing that specific organizational density serves as an indicator of the cognitive status of the form: its cognitive legitimacy. They propose that an organizational form is legitimate to the extent that relevant (meaningful) actors (at specific accumulated/emerged conditions) regard it as the natural way to organize for some purpose.

Aspects related to institutional consistency and contribution

Earlier studies emphasized the effects of institutional context on all organizations within the relevant environment. The institutional environment was viewed as unitary and as imposing structures or practices on individual organizations, which were obliged to conform either because it was taken for granted that this was the proper way to organize, because to do so would result in normative approbation or because it was required by legal or other rule-like

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frameworks. Later studies began to emphasize differences among individuals, groups of individuals, and organizations, recognizing that whether, when, and how organizations respond depends on their individual characteristics or connections (or position). Organizations also differ in the number and kinds of linkages they have with other actors in their environment.

They vary in many ways, but only a few of these differences have been found to be regularly associated with early adoption. Numerous studies have found that organization size is important, larger organizations being prone to early adoption.¹⁸ In private sector organizations, the characteristics of CEOs have been found to affect adoptive behavior. CEO background – for example, whether the CEO's experience comes from production, marketing, or finance (Fligstein 1985; 1990) – and CEO power vis-à-vis the corporate board (Westphal and Zajac, 1994) are associated with the adoption of new structural forms and with CEO compensation protections and incentive systems.

More recent studies have emphasized the role of top management teams in providing a context and tool for successful adoption. Several studies on top management teams have confirmed the link between management team and organizational performance especially in high-velocity conditions (Murray, 1989; Eisenhardt and Schoonhoven, 1990; Finkelstein and Hambrick, 1990; Michel and Hambrick, 1992; Hambrick and D'Aveni, 1992). Management teams are also linked to organizational innovation (Bantel and Jackson, 1989), strategy (Michel and Hambrick, 1992), and strategic change (Wiersema and Bantel, 1992).

Illustrative are the findings that organizations are prone to imitate the behavior of organizations that are geographically proximate (Davis and Greve 1997; Greve 1998); that are perceived to be similar to themselves (for example, operating in the same industry) Palmer, Jennings, and Zhou, 1993; Haunschild and Beckman, 1998; Porac, Wade, and Pollock, 1999); that have close ties, for example resources, information, and board interlocks (Haunschild, 1993; Uzzi, 1996; Kraatz, 1998; Galaskiewicz and Bielefeld, 1998); that have high status or prestige (Burns and Wholey, 1993); and that are more (visibly) successful (Haveman, 1993; Haunschild and Miner, 1997; Kraatz, 1998). The arguments associated with these variables range from strictly institutional ones to vicarious learning and political maneuvering. More important, however, these studies begin to show the ways in which institutional processes interact with interest-based motivations to guide organizational choices and behaviors (see also Baum and Dutton, 1996; Dacin, Ventresca, and Beal, 1999).

Strategic responses

Recent theorists and researchers have stressed the varied nature of organizational responses to institutional demands. In some situations, individual organizations respond strategically, either by decoupling their structures from their operations or by seeking to defend themselves in some manner from the pressures experienced. In others, the demands themselves are negotiated, as organizations collectively attempt to shape institutional requirements and redefine environments. From the perspective of this study, the literature and research on strategic responses may provide knowledge on how organizations seek to cope with institutions and institutional development, depending on how competent they feel and perceive themselves in the accumulating institutional conditions and development.

Oliver (1991: 152) delineates five general strategies available to individual organizations confronting institutional pressures and opportunities: acquiescence, compromise, avoidance, defiance, and manipulation. The first, acquiescence or conformity, is the response that

¹⁸ This is logical if the big corporations are highly respected and in a persuasive position for creation and negotiation of new meanings. On the other hand, they may be prone to early adoption since they are in the position to lose the most if they lose their competitiveness.

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received the lion's share of attention from institutional theorists. As we have seen, it may entail either imitation of other organizations selected as models or compliance to the perceived demands of cultural, normative, or regulative authorities. It may be motivated by anticipation of enhanced legitimacy, fear of negative sanctions, or hope of additional resources.

Compromise incorporates a family of responses that include balancing, placating, and negotiating institutional demands. It is likely to occur specifically in environments containing conflicting authorities. In liberal, pluralistic societies like the United States, inconsistent and contesting institutional frameworks are commonplace (Friedland and Alford, 1991). This implies that organizations frequently find themselves in situations in which they have considerable room to maneuver, interpret, bargain, and compromise.

The strategy of avoidance, as defined by Oliver, includes concealment efforts and attempts to buffer some parts of the organization from the necessity of conforming to requirements. Defiant organizations not only resist institutional pressures to conform but do so in a highly public manner. Defiance is likely to occur when the norms and interests of the focal organizations diverge substantially from those attempting to impose requirements on them.

Organizations may respond to institutional pressures by attempts at manipulation, the "purposeful and opportunistic attempt to co-opt, influence, or control" the environment (Oliver, 1991:157). Numerous scholars, from Selznick (1949) to Pfeffer and Salancik (1978) to Alexander (1995), have examined the ways in which organizations attempt to defend themselves and improve their bargaining power by developing linkages to important sources of power. Of special interest to institutional theorists are the techniques used by organizations to directly manage views of their legitimacy. However, Scott (2001) adds that institutional rules set the limits within which the strategic behavior occurs.

More than the actions of single organizations, concerted responses by multiple organizations have the potential to shape the nature of demands and events to redefine the rules and logics operating within the field. Scott (2001) suspects that processes - in which rules or normative controls are proposed or legislated, interpretations and collective sense-making activities take place among participants in the field to which they are directed, and requirements are then redefined and clarified - are more often the rule than the exception (Scott, 2001:176).

A study by Kaplan and Harrison (1993) examines the reactions by organizations to changes in the legal environment that exposed board members to a greater risk of liability suits. Corporations pursued both proactive strategies that conform to environmental requirements and reactive strategies that attempt to alter environmental demands. Both involved collective as well as individual efforts. The Business Roundtable, a voluntary governance association, "took the deal in coordinating the conformity strategy by making recommendations on board composition and committee structure" (p. 423), consistent with the concerns raised by such regulatory bodies as the Securities and Exchange Commission. Proactive collective strategies included lobbying efforts directed at states to broaden the indemnifications protection for outside directors as well as the creation of insurance consortia to underwrite the costs of providing liability insurance for directors and officers to companies.

Scott (2001) states that these decoupled responses are often seen to be merely symbolic, the organizational equivalent of "smoke and mirrors" (see Perrow, 1985). However, to an institutionalist, the adjective merely does not fit comfortably with the noun symbolic. The use of symbols, a process by which the organization connects to the wider world of meaning, exerts great social power (see Brunsson, 1989; March and Olsen, 1989). Second, numerous studies suggest that although organizations may create boundary units for symbolic reasons, these structures have a life of their own. Personnel employed in these units often play a dual role: They both transmit and translate the demands of the environment to organizations, but

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they also represent organizational concerns to institutional agents (see Taylor, 1984; Hoffman, 1997).

GENERATING PROPOSITIONS AND A THEORY

This study argues that the issue of top teams on performance and growth cannot be taken out of the social/institutional context of meaning in which it emerges and exists. In other words, to talk about teams and their importance to firm performance and growth is somewhat meaningless if there is no condition for such phenomenon to emerge and exist, and if one does not have meaningfulness/a meaningful position in that context.

Drawing on institutional theory and analysis, we argue that two conditions have to be met for the emergence and existence of a strong positive relationship between team aspects and firm performance and growth in the sample (or case) studied. Those conditions are the following:

- 1) There must have been an opportunity for specific institutional/physical development for the meaningfulness of the phenomenon of top teams on firm performance and growth to emerge and to be reproduced.
- 2) There must have been a strong position within that development in order to perform on a high level in this phenomenon.

Specific institutional development

Institutional theory argues that no single phenomenon, organization, or relationship emerges and exists in a vacuum; they are always related to some accumulated institutional/physical developmental condition and setting (Scott, 2001). From the theoretical perspective of this study there must have been (an opportunity for) specific institutions and institutional and physical development allowing specific phenomenon to emerge and exist and to become meaningful, institutionalize, and diffuse. By theorizing and identifying those conditions we are able to increase our understanding of the more fine-grained conditions of the emergence, existence, meaningfulness, and diffusion of the phenomenon, organization, and relationship studied.

Now combining the issues of new business creation and growth (e.g. Shane and Venkataraman, 2000) and the process of institutionalization needed, we argue that in order for the phenomenon of positive relationship between team aspects and firm performance and growth to emerge and exist, there must have been (an opportunity for) specific institutional and physical development intending, accepting, and making possible and meaningful the phenomena of

- a) the continuous identification of opportunities for new products, services, and business organizations,
- b) the organization of business organizations and entrepreneurial top management teams with specific demographics, structures, and processes that strongly support the business organization,
- c) the strong development and growth and selection and dynamics of business organizations and
- d) the emergence and existence of a relationship between specific aspects of top team demography, structure and process and firm performance and growth.

Position within institutional development and contribution to it

On the other hand, institutional analysis argues that no performance related to specific phenomena, organizations, and relationships emerges and exists in a vacuum, but that it is related to the position/relationship/contribution of individuals, groups of individuals,

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organizations, fields, regions, societies to those institutions and institutional development that have become meaningful and that create and recreate/reproduce the phenomenon. From the theoretical perspective there must have been a specific position of and contribution by the individual, group of individuals, organization, region, field and society studied to those institutions and institutional development that create and recreate/reproduce the phenomenon in order to perform on a high level. By theorizing and identifying the position and contribution of individuals, groups of individuals, organizations, fields and societies to those institutions and institutional development we are able to increase our understanding of the more fine-grained conditions of performance related to the phenomenon studied.

Drawing on institutional theory and analysis, we argue that in order to perform on a high level in terms of the emergence and existence of a positive relationship between team aspects and firm performance and growth, there must have been a strong position of a sample/population within and contribution to the institutional and physical development intending, accepting and enabling the following phenomena:

- a) the continuous identification of opportunities for new products, services, and business organizations,
- b) the organization of business organizations and entrepreneurial top management teams with specific demography, structure and processes strongly supporting business organization,
- c) the strong development and growth and selection and the dynamics of business organizations and
- d) the emergence and existence of a relationship between specific aspects of top team demography, structure, and process and firm performance and growth.

Vice versa, a moderate or a weak position of a sample/population on and/or contribution to this institutional development/development of institutions is related to a moderate or weak performance in terms of the emergence and existence of the relationship between team aspects and firm performance and growth.

Drawing on institutional theory and analysis, we argue that by theorizing and studying whether there is a general condition for the relationship to exist and what is the position of sample (or case studied) within that condition, we are able to increase our understanding of the relationship between top team aspect and firm performance and growth.

The following are the research questions:

To what institutional developments, developmental conditions, and settings are the importance and meaningfulness of entrepreneurial top teams for firm performance related? Do these developments, developmental conditions, and settings still exist? What is the institutional/physical position of the sample/population studied within these institutional developments, developmental conditions, and settings? How has it attained this position?

The interview study suggests that there may have been a favorable condition and opportunity for the concrete behavior and phenomena of US and American entrepreneurs and managers to spread and institutionalize and diffuse widely and to become meaningful. On the other hand, it seems that the opportunity and condition may have not been as favorable for the concrete behavior and phenomena of Finnish entrepreneurs and managers. Otherwise, instead of dissonance and inconsistency, Finnish entrepreneurs and managers would feel strong systematic competence and motivation and strong performance related to what they think is important and meaningful and to what they aim to do and actually achieve. Through institutional analysis we can identify whether this is so and determine the reasons for it.

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IDENTIFYING INSTITUTIONS

Meyer and Rowan (1977) produced the first systematic statement of the importance of institutional environments in shaping organizational structures. Since then, the analysis has been further developed. Scott (2001) states that institutional analysis provides a deep, culturally embedded, and dynamic view for understanding specific behavior, organization, development, and performance.

We adopt the definition by Scott (2001:48), who defines institutions as follows:

- Institutions are social structures that have attained a high degree of resilience.
- Institutions are composed of cultured-cognitive, normative, and regulative elements that, together with associated activities and resources, provide stability and meaning to social life.
- Institutions are transmitted by various types of carriers, including symbolic systems, rational systems, routines and artifacts.
- Institutions operate at multiple levels of jurisdiction, from the world system to localized interpersonal relationship.
- Institutions by definition connote stability but are subject to change processes, both incremental and discontinuous.

Scott's analytical framework consists of

- the types of institutional beliefs and rules support the development of organization.
- the concept of structuration, which can assist us in reconciling institutional opportunities and constraints with individual agency.
- a set of diverse carriers that transport institutions, identifying the multiple levels at which institutional analysis takes place.

In this conception, institutions are multifaceted, durable social structures, made up of symbolic elements, social activities, and material resources.

This study builds on the propositions derived in the previous section and generates an overall theory on institutional development from the 1980s until the present, based on the interview and archival data on company formation and development as part of the development of the wider competitive environment. This period was chosen since the sample of companies comprises companies founded between 1983 and 1995 represents two industries: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). These industries have become very international or global during that period of time.

The study adopts the historical process view with specific generalizable conditions within. It combines international development and involvement and the position and contribution of individuals, groups of individuals, organizations, fields and societies/nations as part of it. The study is similar to those of Whitley (1992), Dobbin (1994) and Biggart and Guillén (1999). They employed a comparative approach, contrasting different societies and their involvement in global opportunities. Their studies were historical, following the course of events in each society over time. Dobbin (1994) gives specific attention to agency, noting which actors are active and effective and whose interests are advanced. So also do Biggart and Guillén, who examine the role of local business enterprises, multinational companies, and the state. All the analysts took a social constructionist perspective. Although the actors may be pursuing their own interests, the actors themselves, their social location, and the modes of action are socially constituted. Of most interest, all of these analysts expanded the scope of institutional analysis by insisting that "instrumental practices are at the same time cultural" (Dobbin, 1994:127). Culture is not restricted simply to the study of norms, but also encompasses the social rules by

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which we create value and craft “intersubjective understandings of cause and effect” (Dobbin, 1994:18).

From the perspective of this study it is now essential to identify shared, widely held, and diffused institutions (intentions, values, beliefs, frames of reference, habits, norms, regulations; agents and contents) and institutional/physical development empowering and constraining the behavior, thought, organization and development intending, accepting and making possible and meaningful (and taken for granted) the phenomena of identification and exploitation of new business opportunities and entrepreneurial top management teams. Although it is conventional among macro scholars to characterize such systems as operating in the organization’s environment, it is important to recognize that these systems are carried in the minds of individuals. They exist not only as “widely held beliefs” in the wider environment or as laws that organizational actors need to take into account, but also as ideas or values in the heads of organizational actors.

On the other hand, it is essential from the perspective of this study to identify and assess the position in and contribution of the individuals, groups of individuals, organizations, fields, and also regions and nations that have been sampled and studied to these institutions, institutional frameworks and institutional developments. From the perspectives of motivation and individual resource allocation, specific entrepreneurial behavior is carried out with ever higher goals when individuals or group of individuals are in an accumulated position where they feel that they are playing a strong, persuasive role in the entrepreneurial organization, i.e. they negotiate new systems of meaning in the course of social interaction within the defined framework of values. If not, efforts are made to allocate the behavior and resources to lower levels of goals and other directions or for purposes where individuals feel competent.

In studying institutions, this dissertation combines the variable and process views. The contents of institutions and position within/contribution to them are variables that are assessed cross-sectionally and longitudinally. In this study this was done retrospectively.

INSTITUTIONAL TREJECTORIES¹⁹

This section builds on recent institutional development and the position of the sample studied within and contributing to it, thereby providing a further explanation for the emergence and existence of a relationship between aspects of entrepreneurial top management team and firm performance and growth. The illustration of institutional development and developmental settings are based on the interview and archival data in the sample studied describing the organization and development of businesses, the formation and development of their teams, and the conditions where they took place from the 1980s until the beginning of the 21st century. The summary of the analysis is presented in this section. Further discussion of the issues identified in the interviews and archival data are presented in the discussion section of this paper.

The institutional development

We trace the origins of the emergence and existence of the phenomena of identification and exploitation of business opportunities and the formation of entrepreneurial teams to the

¹⁹ Since the need to take into account the institutional conditions and the development and position of the sample studied within them emerged as an interplay between empirical analysis and theoretical reasoning and the original study design did not focus on the complementary analysis of institutional development, this study instead provides a “taste” of institutional development and developmental settings and their effects on organization and the emergence and existence of relationships between team aspects and firm performance and growth.

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strengthening institutions of the consumer-, market-, and entrepreneurship-drivenness in Western countries. The US can be seen as at the center of this institutional and physical development and the development of these institutions. The institutions and institutional development have strongly emphasized the values and issues of consumer- and market-drivenness, individual earnings, and economic performance. This again has emphasized the values and issues of business organization, especially growth businesses, fluent capital markets, and solid technology development. The collapse of the socialist and communist bloc at the beginning of the 1990s provided a huge opportunity for consumer- and market-drivenness and the values, contents, and agents related to it to strengthen, spread, and diffuse widely. As people in those countries lost faith in their former system and chose a system that seemed more attractive, persuasive, and opposite to the old one, an immense stock of resources, both human and material, became available to share in and join the Western, US-centered system. The collapse of the socialist and communist bloc was the cause and effect of further developments. It had a tremendous impact since the former institutions, which prohibited markets, price mechanisms and speculation, were replaced almost overnight by formal institutions that supported them.

Once the values and issues of consumer- and market-drivenness (instead of strictly controlled markets and limited consumer- and market-drivenness) became widely diffused, the next step in institutional development was to appreciate and accept free international trade and consistent markets for products, services, capital, and labor. This was both the cause and effect of still further development. It was believed that the new system would provide opportunities for all of the products and services and for the production and earnings. At this stage it was also appreciated and accepted that prior relatively independent national and regional institutions and institutional development related to markets, consumers, and production would be harmonized with the internationally appreciated and accepted and diffused institutions and institutional development. This also affected harmonization of what is know-how and skillful behavior in practice within these institutional conditions, i.e. to which institutional conditions of situation and environment (including symbols, scripts etc.) does one need to refer in order to be involved in meaningful behavior and organization.

The above mentioned institutional development/development of institutions has led to enormous markets, consumer-drivenness, and market dynamics as well as to huge business opportunities, and competition for them. It has forced individuals, groups of individuals, organizations, regions and nations to be involved in them in order to achieve success (employment, earnings, social status/identity, and social and material well-being). The above institutional development also provides some insights into the appreciation, acceptance, importance, potentiality, and necessity of the formation of high quality entrepreneurial top teams capable of identifying and organizing business opportunities in the accumulated conditions while aware of the high risk of failure.²⁰ Since this worldwide value and behavioral system has been established, it provides a concrete chance for a relationship between top team aspects related and contributing to the immense worldwide business opportunities and businesses. Top teams have become a necessity. This does not mean, however, that everyone is qualified to join such teams. Behavior and position close to these strengthening institutions are necessary. By accepting the dynamics of high consumption and the entrepreneurial system, we also accept the great asymmetry caused by it. This asymmetry is the source of the entrepreneurial processes to be reproduced (e.g., Coase, 1937).

From the Finnish perspective, the importance and meaningfulness of the phenomena of entrepreneurial teams for firm growth is related to the above-mentioned and US-centered institutional and physical development, which emphasizes strong consumer- and market-drivenness. More recently, it also came to mean international free trade and market

²⁰ These emerged conditions of meaningfulness and success may also change the meaning and acceptance of failure in a direction that is more encouraging for entrepreneurial action.

consistency. The effect of top teams on firm performance would be different if the importance and meaningfulness and the diffusion of the phenomena were related, for example, to institutional development emphasizing relatively independent national markets and societies with their own institutions, knowledge, and know-how. In that context, teams and their demography and processes were related to successful behavior in terms of those relatively independent institutional and physical conditions. Also, the importance and meaning of teams were related to those local institutional conditions. Entrepreneurial teams lacked significance in the institutions of Finland in the 1980s, which emphasized rather limited consumer- and market-drivenness and relatively independent markets. The meaning and practice were indeed different.

Position within and contribution to the institutional development

We now include the formation and development of the companies and teams of the sample in wider institutional development and evaluate their position, contribution, and involvement (agency, contents) as part of the above institutional development. Moreover, the overall position, involvement, role, and contributions of Finnish entrepreneurs and managers, Finnish companies, Finns and Finnish society (as agencies, contents) in general as part of that institutional development is assessed. This helps us to understand the specific organization and also the emergence and existence of the relationship between team aspects and firm performance and growth.

The sample/population studied represents the population of companies founded between 1983 and 1995. This is the period immediately before and after the fall of the socialist and communist regimes. On the other hand, it was also a period of economic overheating in Finland in the late 1980s, followed by severe economic crises in the early 1990s.²¹ This is important since, as Stinchcombe (1965) asserts, the conditions of founding may play a crucial role in the later development of the company.²²

On the other hand, the sample represents two industries: the manufacture of electrical and optical equipment (SIC 31-33) and software consultancy and supply (SIC 722). Those industries have been the drivers of the ICT (Information and Communications Technology) – industry – the industry or field that has been seen as an important cause and effect (agent) of market globalization. The industry or field itself has become very international or global since the 1980s.

The position and contribution of the individuals, groups of individuals, organizations, fields and society in Finland to the institutions and institutional development of consumer- and market-drivenness and entrepreneurial dynamism was quite moderate in the 1980s. On the other hand, based on the study data we argue that the institutional and physical conditions in the 1980s in general were different from those of the 1990s and in the early 21st century. The socialist bloc still existed even though there were signs of decline in the original values of the system in the late 1980s. Unofficial markets for goods began to flourish. Formal institutions continued to sustain the system.

From the perspective of the Finnish economy, the period of extensive bilateral trade with the Soviet Union was especially good. The Soviet Union sought to satisfy some of the growing

²¹ The GNP of Finland dropped 12 per cent between 1990 and 1993, followed by a new economic upturn (the average annual growth rate of the GNP was 5 per cent for several years until 2000).

²² Using a sample of exhaustive longitudinal data from Labour Employment Statistics, which include virtually all employed people in Finland, Kangasharju (2000) concluded that small, fast-growing firms were rare at that time: Even in the two-year period when the economy overheated, only 14 per cent of the firms moved into a higher turnover class. During the recession the proportion dropped to as low as 6 per cent.

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consumer demand by importing goods from the West, especially from countries with which it had good relationships. Good engineering skills, a sound production system, and a coherent work culture put Finland in the position to exploit this excellent opportunity.²³ At the same time, the manufacture of electronic and optical equipment and software consultancy and supply were also gaining ground and becoming more important for the economy. Companies focused mainly on increasing domestic markets in the areas of computing. Together with the rapid development of the finance sector of Finland in the late 1980s, the economy was one of the fastest growing in the world. In 1990 it ranked third only to Switzerland and Sweden in growth in per capita GDP.²⁴

The institutions of the 1980s had their roots in previous decades, when relatively independent national markets/societies existed, socialist and communist ideologies flourished, and trade with the socialist bloc within different institutions was meaningful. Within those institutional conditions, societies with limited consumer- and market-drivenness and specific entrepreneurial dynamics were developed. This notion also gives us some idea of our angle in the institutional development emphasizing consumer- and market-drivenness, which had already flourished in the USA for some time. More as reflections and applications from the West, a cohort of new start-ups with entrepreneurial teams from the very beginning was founded in the beginning of the 1980s. The formation and development and the demographics and processes of the teams strongly reflected the institutional conditions of that time. Within the favorable conditions of domestic demand in the late 1980s, very successful teams and businesses were also created, enabling the link between team demographics and processes and firm performance and growth.

The economic downturn in the beginning of the 1990s hit businesses hard. Many companies in the industries studied became insolvent. On the other hand, in those companies that survived, numerous changes in operations, teams and ownerships were made. Although the experience was harrowing, it provided them with a good developmental base for a new economic upturn, which began in the mid-1990s. Moreover, a whole new cohort of companies based on innovations in Internet and mobile technology was also founded in the early and mid-1990s. The technological inventions and growing international markets seemed to provide huge opportunities for businesses. The rapid development of international capital and financial markets offered new limits and frameworks for business development. Based on research findings, especially in the US, the effect of entrepreneurial team on firm performance and growth had also become an important issue. Several new businesses with teams were established. Also, the speculative values of the companies were rising fast. The most successful companies were listed on the Helsinki Stock Exchange.

Finnish companies seemed to get off to a good start, partially due to public sector services and financing for technology and product development, business planning, and support for commercialization and internationalization. The team and business formation seemed to be successful and team demography and processes were related to the performance and growth of firms. However, in the late 1990s an increasing number of foreign companies, competitors in the same industries as well as venture capitalists, and most often US-based, entered the same markets. Before long they appeared to be guaranteeing the success of the Finnish companies by acquiring, co-operating, and financing them. However, they also seemed threaten the success of the Finnish firms by significantly increasing competition in the markets. Team demography and processes of Finnish companies suddenly seemed to lose their meaning. The critical notion in the cases studied was that the US competitors and venture capitalists seemed more interested in our tiny technology companies than in our well-

²³ The industrial system of Finland developed rapidly after World War II, partly because of war indemnities to Soviet Union.

²⁴ World Bank, World development indicators
<http://www.indexmundi.com/facts/indicators/NY.GDP.PCAP.CD/compare?>

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developed organizations with international offices of their own. On the other hand, the most successful Finnish companies and teams were those focusing on domestic inwards operations. Within accumulated institutional conditions and settings there was a greater chance to identify the link between team aspects and firm growth within the companies focusing on domestic markets and utilizing/launching strengthening international products/services than among those companies that sought to enter international markets solely with their own products.

From the outsider's perspective, the collective concrete behavior of Finns and their involvement in international institutions and organizations did not strongly support either customer- and market-drivenness or entrepreneurial dynamics. Even though we had formal institutions supporting technology development and innovations, our collective values, norms, and regulations as well as our habitual/taken-for-granted behavior did not seem to support customer- and market-drivenness and dynamics or to allocate sufficient resources to entrepreneurial action and business growth. We lived partially within institutions formed in previous decades. These institutions emphasized collectively controlled development of society instead of consumer- and market-driven development. Although they did provide a sound basis for technology development and for good formal education, they became problematic under the accumulated consumer- and market-driven developmental conditions.²⁵

To conclude this illustration of institutional development and developmental settings and demonstration of their effects on organization and the emergence and existence of a relationship between team aspects and firm growth, we suggest that institutional analysis could provide further explanation of the emergence and existence of the link between top management team aspects and firm performance and growth.

SUMMARY OF THE STUDY AND FURTHER DISCUSSION OF THE RESULTS

This study drew on institutional theory and generated propositions and an overall theory on the institutions, organizations, and the emergence and existence of the relationship between entrepreneurial top management team demographics and processes and firm performance and growth. The study suggests that it is important to include the institutional development and position within it in the explanation of the emergence and existence of the relationship between team aspects and firm performance and growth in the sample/population or on the case level. Inclusion of institutional assessment is especially apt when phenomena are studied and explained in the current accumulated international context and when implications for practice are derived. The lack of institutional assessment may lead to misleading implications of the role and support of top management teams and the effect of their demographics, structures, and processes on firm performance and growth.

The results of essay four suggest that specific organization and team formation and relationships in the sample and case level were related to the specific worldwide institutionalization of consumer- and market-drivenness centered in the US and other Western countries. On the other hand, weak involvement in and contribution to this institutional and physical development may be seen as inconsistency and meaninglessness within that behavior and thought and thus to represent weak performance in terms of the organization, teaming, and development made possible by the accumulated institutional and physical conditions. The inconsistency and weak institutional position within the institutional development also explains the lack or the weakness of the systematic relationships between top team aspect and organizational performance in the sample studied. By weak institutional fit we mean that the behavior, individual or collective, does not appear to contribute to and strongly carry out the

²⁵ Here it is important to add that the term consumer-drivenness means that single individuals have an impact on whether they consume or not and what, when, how and why they consume or do not consume.

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emerged strengthening intentions, acceptance, values, beliefs, norms, regulations, agents and contents.

The accumulated institutional setting and the weak position of the sample/population within it may also explain why there seems to be a tendency towards domestic inward organization and growth and successful team formation. While there is some inconsistency in the strengthening international institutions, organization, and development, this means on the other hand, that there is strong consistency in one's own domestic institutions and organization, making Finnish entrepreneurs and managers necessary and attractive for the export operations of international companies for Finnish markets. In these conditions and settings, entrepreneurs targeting the domestic market and riding on internationally proven concepts feel a strong consistency and meaningfulness, enjoy support from others, and feel competent and motivated to carry the growth process forward. This may explain why the most successful and growing organizations in these accumulated institutional and physical conditions and settings seem to be those companies that consciously (or by accident) serve the own domestic markets. In them, team processes leading to the successful growth process are very probable. Inconsistency with respect to international markets may also explain why it is so important for Finnish companies to become acquired or at least financed by internationally recognized companies that guarantee the fitness/consistency of behavior and thought (and symbolism) with respect to international (strengthened/strengthening institutions and physical) markets.

Identification of the strengthened institutions and institutional and physical conditions and settings and of the concrete position of the sample studied within them reveals the concrete challenges that face entrepreneurs seeking to pursue an international growth process, business developers and consultants seeking to support those processes, and for policy-makers seeking to establish programs and tools to support those processes. Finnish entrepreneurs, business consultants, policy-makers, and for that matter the entire population should share in and contribute strongly to recent institutional and physical development, which at least from the Finnish perspective emphasizes and enables extreme consumer- and market-drivenness, free markets that are international and consistent, and innovative and fluent capital markets. Such behavior would have a strong impact on the taken-for-granted beliefs, values, norms, regulations, and habits that run and empower organization and development. Although Finnish entrepreneurs, business consultants, and policy-makers have contributed to these institutions and institutional development, in terms of international institutional and physical development, their effort has been slight.

The institutional analysis may provide some explanation for the paradox of Finland (cf. Autio, 2009). Because of the current institutional developmental setting and the position of the population of Finland within it, growth companies are vital. However, since there is some inconsistency with respect to internationally strengthened institutions, there is a lot of talk and formal action, but little real action and success. This inconsistency is reflected everywhere. Finnish firms and organizations carrying out or supporting growth processes do not appear eager to take the process forward since their habitual taken-for-granted behavior, which is widely shared in Finnish society, is inconsistent with the international strengthening context. This inconsistency may not be apparent at first sight. This is why a descriptive study, which does not analyze the shared institutions and meanings and the position of the sample/population studied within them in depth, may not recognize it.

In the end, we could generalize that successful individual and collective behavior, organization, and performance are closely related to the struggle for current widely held institutions and institutional opportunities. It is also important to recognize how and why the relevant behavior, knowledge, skills, and experience are closely related to the accumulated institutional conditions and settings and to the position of the sample/population studied within them. This means that institutional understanding is one of the key elements of knowledge and know-how in terms of social aims, organization, and performance. To the

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question of what is the appropriate background, experiences, knowledge, skills and cognitive frames of reference required by top management in order for the firm to grow, we would argue that it is one which is strongly related to the strengthening institutions/physical and institutional developmental settings that makes such organization possible.

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ESSAY 4

Appendix A1

Summary of differences between companies and their initiation conditions

Successful Finnish companies	Successful US-based companies
The system provides a good chance to be involved in new technological innovations.	The system provides a good chance to be involved in a new technological invention and in new consumption/b-to-b opportunities.
Technology developers look continuously for new technological inventions.	People look continuously for new opportunities for consumption/business and earnings/livings.
Technology-minded inventors get support from other technology-minded people and also from some business-minded people.	People are eager to identify and negotiate about new opportunities for consumption/technology/businesses and earnings/making livings.
Groups of people/teams form to develop technology and products for the markets.	There are continuous early entrepreneurial groupings/availability of people close to the consumer/market and technology.
Ideas for products and markets are sold to the agencies helping to develop the technology further.	Ideas for consumer/business/market opportunities are sold to other prospective team members and investors/business angels/venture capitalists.
Applications for technology/product development finance are made.	Fast demos are carried out for customers with the risk of business stakeholders.
Firms are established early on to develop technologies and products for the markets.	When the proof of a concept shows green, a firm is established.
Step-by-step processes are carried out to develop the technology and product further.	Rapid resourcing of the business is sought for an attractive market position in the US and international markets.
More technology and business people are hired to first prepare product, make careful market segmentation, and establish domestic and international sales organizations.	Prior knowledge, networks and institutional position/legitimacy are used to build a scalable base for the business; attractive incentives based on the growth of the firm are established.
A technologically superior product is brought to the market.	A consumer/business friendly product/service application is brought to the market.
First applications are sold to companies that value technological advantages highly.	Top tier customers valuing user/business friendly products/services are sought as top priority of customers and references.
International sales offices are established to sell the product to various countries.	International sales agencies with strong inbuilt incentive and control mechanisms are established.
Companies create durable organizations of their own with fixed overheads.	Scalable sales/distribution/production organizations with strong incentives for customers and other stakeholders are created.
As a result, several small and medium sized technology-based companies are developed for the markets.	As a result, several small and medium sized technology-based companies with some very rapid growth companies are developed for the markets.

If the top managers have the appropriate backgrounds, experiences, knowledge, skills and cognitive frames of reference for the growth of the firm, the firm will grow. This begs the question of what are the appropriate backgrounds, experiences, knowledge, skills and cognitive frames of reference required by the top management to ensure growth of their firms. This line of questioning may also be contextualized as to “the particular accumulated circumstances of growth.” Several constructs, taking into account the multiple levels of analysis, are developed to increase our understanding on the relationship between aspects of top team and firm performance and growth.



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