

NEW VENTURE DEVELOPMENT AND CHANGING ROLE OF BOARD OF DIRECTORS IN HIGH TECHNOLOGY FIRMS: CAN BOARDS BE STRATEGIC?

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Abstract

When a board is strategic, it gains more value as an institution. A strategic board is able to direct the firm actively and open the discussion about the views of the top management. A strategic board also includes a sufficient number of independent non-executive members with appropriate competencies. The role of a strategic board varies by the state of development. It is to be kept in mind that the various states can occur at the same time overlapping with each other making the situation even more complex for the management and the board of directors. From a strategic point of view, the states are (1) worldview, (2) boundaries, (3) structure and (4) plan. The most important strategic roles of the board in the worldview state are corporate strategy, service tasks and organizational contribution. During the boundaries state it is competitive strategy, financial control, organizational contribution and service tasks that are the most significant roles of the board. In the real expansion period (the structure state), the entrepreneurial firm needs to balance the growth and the profit. At this point the most important roles of the board are financial control and competitive strategy. Finally, the new venture reaches more mature state and strategy in this state is called strategy as a plan. The most important role of the board in this state is to deal with the strategy in general, financial control and organizational contribution.

It is to be noted that this paper reports work in progress.

Keywords

Boards of directors, Strategic management, Corporate governance, Life cycle, Entrepreneurship

INTRODUCTION

Background and Objectives of the Paper

The beginning of the third millennium disclosed companies such as Enron and others having engaged in high risk accounting, extensive undisclosed off-the-books activities, and excessive executive compensation. The board of Enron, for example, had witnessed numerous signs of

questionable practices by the management over several years but it had chosen to ignore them to the detriment of Enron shareholders, employees and business associates. There are similar stories to be found in many of the new high-technology ventures. Although practices were not illegal, the work of boards was still questionable. Another example of this is the Jippii Group's 30 million euros "adventure" in telecom business (Hämäläinen 2002). In this and many other cases the board of directors lacked independency. Recent articles by academics, accounting experts, professors and others have paid more attention to the work of board of directors and corporate governance. Most of these authors do not blame the rules or laws of corporate governance for these weak actions but ask for more involvement and actions from the owners (Taloussanommat, 12.3.2002, 20.8.2002). The reason for this kind of action is not the weakness of members of the board but the inefficiency of the board as an institution (Drucker, 1981).

A typical story in an entrepreneurial firm is that the whole authority over the venture is in the founder's command. The style of corporate governance is the so-called "George Patton model of governance", in other words, one person has all the authority (Dobrynski, 1993). The whole game around the board will change when other external owners (e.g. venture capitalists, other actors) enter the picture, but still corporate governance is seldom connected to entrepreneurial firms. Some types of owners such as the institutional investors like pension funds, which are interested in corporate governance practices, are based on the OECD's principles, which require boards should include a sufficient number of independent non-executive members with appropriate competencies (OECD 1999, CalPERS 2002, see also Hirvonen et al, 1997). In reality, As the board is internal and strategic decisions are actually made in discussions within top management team before the board meetings, the board's role in an entrepreneurial firm is mainly to be a legal necessity acting as a 'rubber stamp'.

According to Zahra & Pearce (1989), most of the research on boards is based on four theoretical bases: legalistic, resource dependence, class hegemony, and agency theory. Major part of the research aims at finding a direct relationship between board variables and financial performance, thus ignoring totally the indirect one. Several limitations of past research, however, warrant attention. The contextual forces on board variables, for example, have been widely ignored. In addition, exclusive attention on Fortune 500 companies has ignored the contribution of boards in different types of firms. Moreover, the role of the board has not been sufficiently articulated to judge whether strategic contributions should be expected (Zahra & Pearce, 1989). The starting point for this paper is to understand better contextual variables around the board during the rapid growth and its strategic management perspective. The previous research has showed that a strategic board can be a valuable asset for a venture, but only a few small firms have utilized this valuable resource (Ratia & Ratia, 1991). Traditionally, entrepreneurship and strategic management theories have developed largely independent of each other (Venkataraman & Sarasvathy, 2001).

This paper focuses on the rapid growth of new ventures. The main characteristics of new high-growth ventures are: (1) they are companies that experience a strong growth in their size (sales, number of personnel, etc.); (2) this strong growth occurs in a very short period of time; and (3) they do not have a previous history as a firm. The aim of this paper is twofold. Firstly, the aim is to describe the changing role of the board during the rapid growth and between the initialisation of a company and the moment when it has reached a state when it is attractive to the formal VC financing industry. Secondly, the aim is to identify the role of the board from a

strategic point of view. This paper analyses new high-growth ventures from three theoretical points of view: (1) growth models; (2) strategic management; and (3) composition, tasks and role of the board of directors. In addition, it explains (1) the contextual environment of development, (2) the different types of actors, and (3) board's roles during the development.

Definitions and Limitations

Although there are numerous definitions about the tasks of the board or corporate governance, this paper does not try to present the whole picture about legal or good corporate governance practices. Naturally, the starting point for the responsibility and the role of the board is defined in the Finnish Companies Act (Osakeyhtiölaki, Chapter 8, 6 §). According to the law, the tasks of a board are the arrangement of the corporate administration and its operations. The CEO will run operative administration according to the instructions and commands of the board. The board must take care of that accounting and financial administration are properly arranged. The Finnish Companies Act does not basically define the strategic role, which can be thus defined by the firm itself.

The second starting point for the role of the board is OECD's definition of corporate governance: "corporate governance is the system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation, such as, the board, managers, shareholders and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs. By doing this, it also provides the structure through which the company objectives are set, and the means of attaining those objectives and monitoring performance" (OECD, April 1999). This definition by OECD is consistent with the one presented by Sir Adrian Cadbury (1995). The strategic role is defined as follows: "reviewing and guiding corporate strategy, major plans of action, risk policy, annual budgets and business plans; setting performance objectives; monitoring implementation and corporate performance; and overseeing major capital expenditures, acquisitions and divestitures" (OECD, 1999). The following key function is also strategic by nature: "selecting, compensating, monitoring and, when necessary, replacing key executives and overseeing succession planning" (OECD, 1999).

Before entering the discussion about the strategic role of the board and the contextual environment of rapid growth, it is appropriate to define how strategy is understood in this paper. The actual strategy concept can be approached and interpreted from several points of view. It can be seen as a plan, a ploy, a pattern, a position or a perspective (Mintzberg, 1987). The most dominating viewpoint is to see strategy as a plan and strategy making as a process of planning (Näsi, 1996). The literature related to this approach normally deals with corporate, business and functional levels (Hofer & Schendel, 1978) and nowadays also with network level (see Figure 1). Today there are numerous schools of thought to be found of which for example Mintzberg et al (1998) ten (see also e.g. Näsi, 1987, Karlöf, 1987).

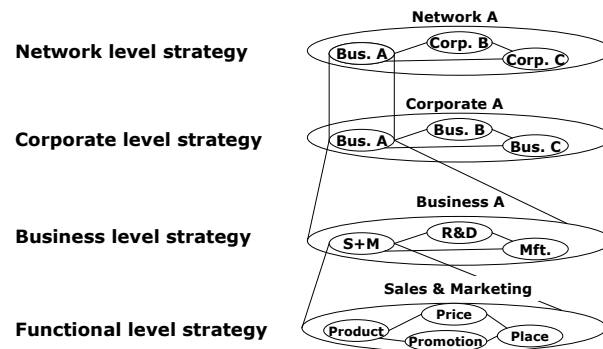


Figure 1. Levels of strategy (De Wit & Mayer, 1999).

Chandler (1962) considered strategy as "the determination of basic long-term goals and the objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals". For Näsi (1991, 1996), strategy meant "the plot of action of the firm", whereas Gilbert et al (1988) considered it to be "logic of action of the firm". Several other definitions are based on similar elements (e.g. Johnson & Scholes, 1989, Karlöf, 1987, Näsi & Aunola, 2002a, 2002b). In sum, the plot or the logic of action, the long-term goals of the firm, competitive advantage and the defined time period which could be regarded as the basic elements of strategy. The plot and the logic of action view strategy as a direction or a vision, core competence, cost leadership, a differentiation, an activity system etc. (see e.g. Porter 1980, 1985, 1996, Mintzberg et al, 1998, Näsi, 1996, Hamel & Prahalad, 1994). Another basic element, the competitive advantage, is relative to competitors. As a unique competitive advantage is not sustainable, strategy also tends to vary in time and in different context. Competitive advantage (e.g. valuable position) will attract imitation by incumbents (Porter, 1996). Strategy in this paper means *the plot or the logic of action of the firm for carrying out long-term goals and for creating competitive advantage for defined or expected horizon of time (not just for a single planning cycle)*.

The definition of an entrepreneurial firm in this paper is consistent with the concept of independent entrepreneurship. Sharma and Chrisma (1999) have defined independent entrepreneurship as "*process whereby an individual or group of individuals, acting independently of any association with existing organization, create a new organization*".

BOARD OF DIRECTORS

Composition

Board composition denotes the size of the board and the mix of director types. The types of directors can be divided into internal and external directors. Outside (external) directors are usually defined as non-members of the top management team and their associates, the employees of the firm, customers or partners. Consequently, an outsider is independent of the

management and the operations of the firm. Moreover, greater numbers of outside directors provide the potential to create linkages between the firm and its environment (Pfeffer & Salancik, 1978). In addition, a sample of small corporations found a significant relationship between three aspects of board of directors (the number and proportion of outside director, the board size) and three indicators of firm financial performance (ROE, ROA, price-earning ratio) (Daily & Dalton, 1992, 1993). These findings were interpreted to be consistent with director's service and resource roles (Daily et al, 2002). In turbulent and uncertain business environments, the boards tend to be smaller, but at the same time the board members have more external contacts and linkages to other organizations (Boyd 1990, Berger 1997). Smaller boards tend to make internal communication more effective, but this requires a board that is able to direct the firm actively and open the discussion about the views of the top management. The board has difficulties in being strategic, if it is big and multiple (Goodstein, Gautum & Boeker, 1994). On the whole, it is hard to arrange well-functioning control and management for the internal board (Hirvonen et al, 1997).

CEO's Dualistic roles

The central concern with the CEO dualistic roles is the potential for managerial domination of the firm. When the CEO concurrently serves as a board chairperson, one person has all the authority. The Agency theory suggests that centralized leadership authority leads to the management dominant of the board and results in poor performance. Alternatively, the Organization and Stewardship theory suggest that concentrated authority is associated with higher firm performance because of its clear line of reporting authority, a centralized organizational spokesperson and communication of strong leadership to external constituents. In sum, the literature demonstrates no evidence of a CEO duality-performance relationship for entrepreneurial firms (Daily et al 2002). A dual structure in an entrepreneurial firm can, however, be problematic in case, for example, outside directors' role can be weakened by the CEO-chairman which decrease thus board's independency (Hirvonen et al 1997). Similarly, founder-managers have also a dualistic role as an owner and as an employee of the firm. In entrepreneurial firms where the CEO is often both the founder and the owner, the situation seem to be even more problematic.

External actors in and around entrepreneurial firms: Venture-to-capital

Rasila et al (2002) define venture-to-capital players (later 'V2C players') as follows: "*V2C operative is the actor, a legal entity or natural person performing V2C activities in V2C space, i.e. the Venture-to-Capital operating area. The goal for V2C operative is to find companies, which can be defined as Prospective, and by V2C operations assist them in becoming "Investable", i.e. fit for receiving an investment for a VC company.*" In recent years activities in V2C arena have been paid more attention to in Finland the newest examples coming from Tampere. eAccelerator, Finn-Medi Research, Media Club, and Professia, just to name a few of the players, push new ventures into the direction of formal venture capital and faster growth rate. Most of these players are not interested in using formal power over the firm at the boardroom. In the pre start-up state the board is normally internal including only the founders. In fact, working with the founders also means influence over the company and its strategic decisions. These and other V2C players operate between the pre start-up state and the formal venture capital industry (pilot study interview sample 2002-2003).

V2C players can be categorized as follows: business angels, incubators, advisers, and large corporations (Seppä & Näsi, 2001, Seppä, 2002). Power over the venture and its strategic decisions varies by each player and is based on agreement or ownership. Normally, business angels personally participate as owners in underlying ventures, but incubators seldom have this kind of incentive. Advisers focus mostly on their own short-term gains and profitability (Seppä & Näsi, 2001, Seppä, 2002). The one of the newest type of V2C player is eAccelerator, which is currently a program under the incubator Hermia Yrityskehitys Oy, which is, unusually to the incubators in general, privately owned. The eAccelerator's products are knowledge and contacts. At later stages eAccelerator is able to convert to its work to a share of the ownership. Although, they stay as owners in a new venture, they are not interested in the formal power over the venture through the boards of directors. The share of the ownership is relative small, which way V2C-players are able to avoid conflicts with their customers and partners - formal or informal venture capitalists (pilot study interview sample 2002-2003).

External actors in and around entrepreneurial firms: Venture capitalists

A venture capital (later 'VC') firm serves the role of a financial intermediary in the market and the survival rates of the new venture capital-backed firms are, however, higher than those without (70-80% vs. 10-20%; Timmons & Bygrave 1986). In fact, many venture-backed entrepreneurial firms are neither clear success nor failures – they are so-called 'living dead' cases. The highest-ranking cause for such 'living dead' situations is management weakness. The replacement of the management, an action often initiated by venture capitalists, positively impacts performance in these firms (Ruhnka et al, 1992). This is also consistent with the general propensity toward monitoring and control demonstrated by venture capitalists. Venture capitalists do not only commit capital, but also participate directly in the governance of their portfolio companies, vis-à-vis the board of directors. Venture capitalists commonly structure their contracts so that they have the right to appoint and remove members of the management team (Gompers & Lerner, 1996). Furthermore, the high agency and business risks are associated with the employment by venture capitalists of more comprehensive governance structures for monitoring and control (Daily et al, 2002).

Roles

Zahra & Pearce (1989) summarize the research on the roles of boards pointing out that there are four distinct theoretical perspectives, which have guided the extent to which boards undertake each role. These perspectives are Legalistic, Resource Dependence, Class Hegemony and Agency Theory. The Legalistic perspective suggests that a board contributes to the performance of their firms by carrying out their legally mandated responsibilities. Advocates of this approach posit that corporate laws vest considerable powers in directors to enable them to fulfill their roles. Thus in the absence of reliable data directors are not in a position to challenge CEO analyses or proposals. This leads to weak boards that task as rubber stamps for managerial choices. Scholars following the resource dependence perspective stress composition and characteristics. However, highlighting a strategy moreover to the service and control roles, these researchers view board roles more broadly than legalistic scholars. The resource dependence perspective suggest that directors may be actively involved in the strategic arena through counsel and advice to the CEO, by initiating their own analyses, or by suggesting alternatives. The Class Hegemony perspective on the role of boards of directors is rooted in Marxist sociology. This perspective suffers from lack of specificity on the ways in which a board enriches company performance, and of

overgeneralization. Additionally, this perspective ignores the changing patterns of corporate ownership (Zahra & Pearce, 1989). Agency theorists adopt a board definition of board roles. Control is seen as the most important task. It is followed by service and strategy. The Agency perspective has three shortcomings. Firstly, the agency notion is founded on some questionable assumptions about the CEO's ('the agent's') values and motives. Secondly, this perspective has failed to document the extent to which directors perform their different roles and how they make decisions. Although the Agency perspective emphasizes the crucial importance of the board's strategic role, little documentation of this role exists (Zahra & Pearce, 1989). Alternatively, sociological and psychological approaches to governance (e.g. Stewardship theory) give a picture of subordinates as collectivists, pro-organizational, and trustworthy (Davis et al 1997).

The integrative model of four perspectives described above (Figure 2) identify three important board roles: service, strategy and control. The model is based on a set of contextual contingencies that influence board attributes, the conduct of its roles and its contribution to company performance (Zahra & Pearce, 1989). Lainema (1998) also distinguished organizational control, of which major tasks are to hire and also to replace the CEO and the key executives. In addition, the feedback loop is missing from the model. The financial performance also affects the composition and the role of the board (Lainema, 1998).

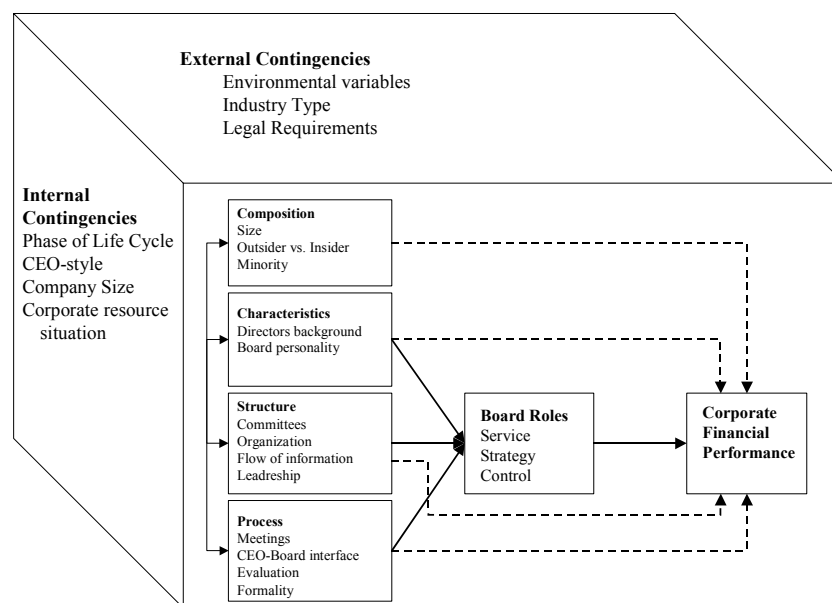


Figure 2. Model of Board Attributes and Roles (Zahra & Pearce, 1989).

Power at the boardroom

Pearce & Zahra (1991) identify four types of boards: Caretaker, Statutory, Proactive, Participative. These four board typologies are developed from grouping the CEO's and board's power (Figure 3). From a strategic point of view, Participative boards will be the ones that contribute most to company strategy. It is then followed by Proactive, Statutory and Caretaker boards. Low board power and low CEO power characterize Caretaker boards. This kind of board is mainly viewed as a legal necessity only. It tends to filled with insiders and, as

a result, board meetings are mostly informal and superficial decision-making being mainly ceremonial with limited discussions.

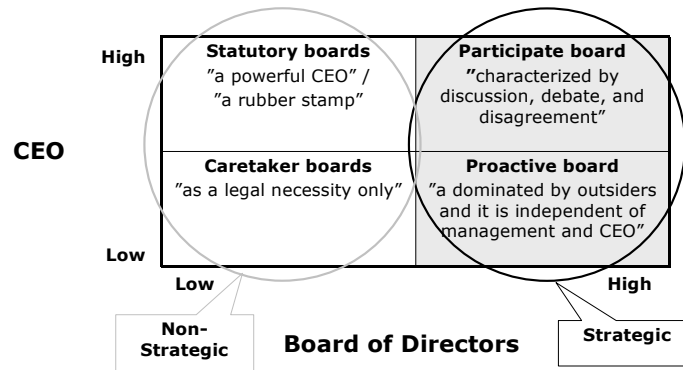


Figure 3. Board types: power at the boardroom (adopted from Pearce & Zahra, 1991).

According to Pearce & Zahra (1991), statutory boards are often called "rubber stamps" for managerial decisions. Proactive boards are usually dominated by outside directors and are independent of management. This board type is characterized by frequent meetings, high involvement, and effective decision-making. Discussion, debate and disagreement are the characteristics of proactive boards. Emphasis is on building and reaching consensus among the directors and the CEO, which demand communication and negotiation. Studies support the need for "testing reasonableness" in small ventures (Bygrave & Timmons, 1992, Fredriksen & Klofsten, 1999). A structural issue that affects the strategic role of the boards is the flow of information between the CEO and directors. Without the access to managerial analysis, directors are not in a position to contribute meaningfully to the strategic initiatives (Zahra & Pearce, 1989). In other words, the CEO's leadership style is one of the most important internal contextual variables. The CEO's power is based, first and foremost, on the incomparable information about the firm (Lainema, 1998).

GROWTH MODELS AS CONTEXTUAL ENVIRONMENT

Several descriptive models describing company growth indicate how organizations, management practices, and resource requirements evolve as companies grow. Major part of the literature related to life cycle suggests that organizations evolve in a consistent and predictable manner or through crises. On the whole, lifecycle stage definitions remain vague and general, making applying of them to specific cases difficult. Dozens of growth models have been presented, for example, by Greiner (1972), Scott & Bruce (1987) and Churchill & Lewis (1983). The Kazanjian model of growth of technology-based companies is presented in Figure 4 (Kazanjian 1984, Kazanjian & Drazin, 1990). Notable in his model is the pre start-up phase (also often called 'a seed phase') that is missing in most of the other growth models.

	1. Pre start-up	2. Start-up	3. Growth	4. Maturity
Problems for organizational decision	<ul style="list-style-type: none"> • Invent, develop and build prototype • Sell the concept • Define business idea 	<ul style="list-style-type: none"> • Develop production • Acquire facilities • Plan functions • Redefine design • Acquire talent 	<ul style="list-style-type: none"> • Avoid shakeout • Maintain • Balance profits and growth 	<ul style="list-style-type: none"> • Maintain dominant niche position • Develop second generation of products • Balance bureaucratic and innovative tasks
People	<ul style="list-style-type: none"> • Generalist • Technologists • Non-professional • Part-timers 	→		<ul style="list-style-type: none"> • Specialists • Bureaucrats • Professionals • Career employees
Structure	<ul style="list-style-type: none"> • Informal • Market reliant • Group centered 	<ul style="list-style-type: none"> • Formalized • Centralized • Functional 	<ul style="list-style-type: none"> • Formalized • Decentralized • Planning and budgeting 	<ul style="list-style-type: none"> • Formalized • Decentralized • Profit center
Rewards	<ul style="list-style-type: none"> • Equity for new • Many opportunities • Informal setting 	→		<ul style="list-style-type: none"> • Stable and secure • Compensation • Career development
Planning process	<ul style="list-style-type: none"> • Informal • Centralized • Undifferentiated • Short time horizon • Integrated 	→		<ul style="list-style-type: none"> • Formal • Decentralized • Specialized • Multiple horizons • Integrated

Figure 4. The Kazanjian model for growth of technology-based companies.

These growth models mainly describe only the internal issues of growth. Another perspective is the external view of the new venture life cycle. One of the best descriptive models is the revised technology adoption life cycle by Geoffrey Moore (1998, 1995) (Figure 5).

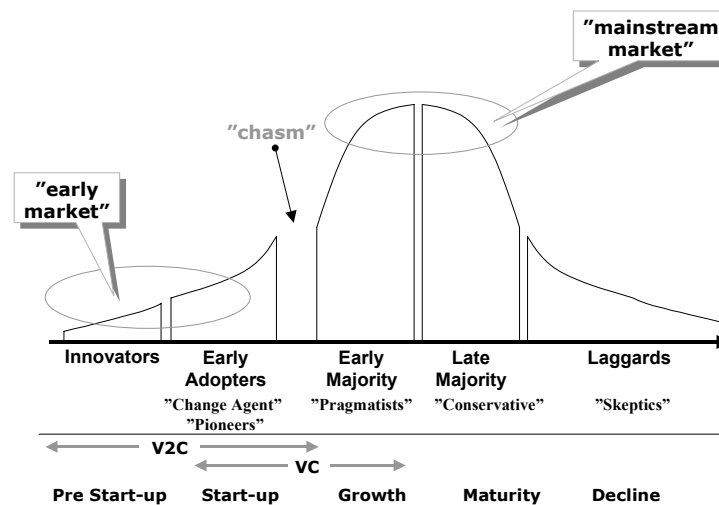


Figure 5. Revised Technology Adoption Life Cycle (adopted from Moore 1998, 1995).

The groups of the Technology Adoption Life Cycle (Figure 5) are distinguished from each other by their characteristic response to a discontinuous innovation based on a new technology. Each group represents a unique combination of psychology and demographics that makes sales responses different from those of the other groups. The biggest innovation of a life cycle is the two distinguished markets that differ from each other. The so-called ‘early market’ plays with innovators and early adopters (“Pioneers”) whereas the ‘mainstream market’ deals with ‘early majority’ (“Pragmatists”). Getting an ‘early market’ started requires an entrepreneurial firm with a breakthrough technology invention that enables a new and convincing application, a technology enthusiast who can evaluate and appreciate the advantages of the product over current alternatives, and a visionary who can foresee a great

improvement form implementing the new application (Moore, 1998). Just as the visionaries drive the development of the early market, so drive the pragmatists the development of the mainstream market. Winning the support of the early majority is not only the point of entry but also the key to long-term dominance. The key point here is that mainstream customers truly dislike discontinuous innovations. In other words, the longer the product is on the market, the more mature it becomes and the more important the service element is to the customer. Between these two markets there is an area called the ‘chasm’. “The chasm is, by any measure, a very bad place to be. The high-technology vendor wants the pragmatist to buy now, and the pragmatist needs – or at least wants - to wait” (Moore, 1998, 1995).

CASE: ATBUSINESS COMMUNICATIONS OYJ

Before entering the synthesis of the paper, the following describes a case study about rapid growth and how it fits into the described growth models. AtBusiness Communications Oyj (later ‘AtBusiness’) was founded by persons who had had a lot of experience of information technology in companies such as HP, Silicon Graphics, IBM and Omnitel. AtBusiness Communications Oyj was founded in December 1996 its owners being the management and personnel of the company, venture capitalists and several private investors. AtBusiness provides highly customisable extended customer solutions for demand and supply chain management, a web-based CRM-product family, and consulting and system integration of flexible and cost-effective solutions (AtBusiness 2002). In the first five years the average growth rate was 91% per year. Figure 6 describes the growth of AtBusiness from 1997 to 2001. This case description is based on the interviews among the top management and board members (conducted in 2002), and on the official documents and published articles (1997 – 2002).

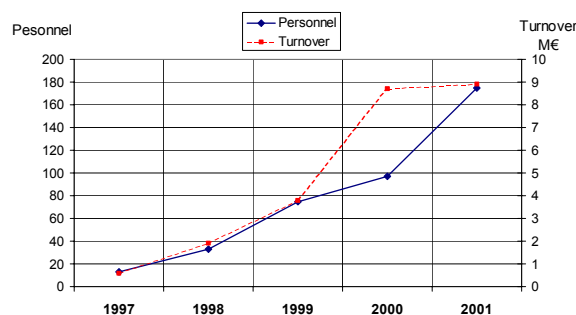


Figure 6. Growth of turnover and personnel: AtBusiness Communications 1997-2001

Pre start-up

The pre start-up phase lasted from the foundation of the company to the year 1999. From the board of directors’ viewpoint the start was relatively easy, as there were no high risks involved. The business started to grow fast and the second year was already profitable. The main business comprised different kind of projects the common denominator being the Internet technology or technologies around it. During the first couple of years, AtBusiness

listed about 40-50 product or service ideas. The board was mainly internal (only two were outside directors) so there were very few outside members who could challenge the strategy presented by the top management. The board meetings were held every second month.

Start-up

The start-up phase was from 1998 to 2001. AtBusiness acquired companies, set up a formal R&D department, recruited more developers and launched a new product. In addition, the company established its own office in Germany and sought partners all over the world. Many moves took place in a very short time (especially from 2000 to 2001). Although in summer 2000 market signals were not good, AtBusiness recruited very actively and nearly doubled the number of its personnel. The total risk level increased rapidly, basically within one year. It was impossible for the board to follow the situation, as the reports available were not sophisticated enough. The board trusted the management and, as prospects looked promising, waited for the market situation to improve. At the same time managing both businesses concurrently with scarce resources was a big challenge for a company in transition from a project and service based business to a more product based business. The board meetings were held about four times a year.

The chasm

The growth phase had not yet started by spring 2002. The market was still quiet and there were more uncertainties around the market. The sales figures of the company had risen by only about 10% in 2001. The board received a new outside director and thus the outside directors' relative power rose. The board meetings were held every second week and the economical situation was followed more actively. AtBusiness did some restructuring to reduce expenditures and did adjusted strategies.

Summary of the case study

The growth of AtBusiness is described in Figure 7. Graphs are not in scale, but describe the situation from the mid 1990's to 2001. The Internet technology starts to emerge in 1995 and AtBusiness is founded in December, the following year 1996. Market starts booming in late 1990's and turns downwards in 2000. At the same time the technology becomes more mature and also more reliable.

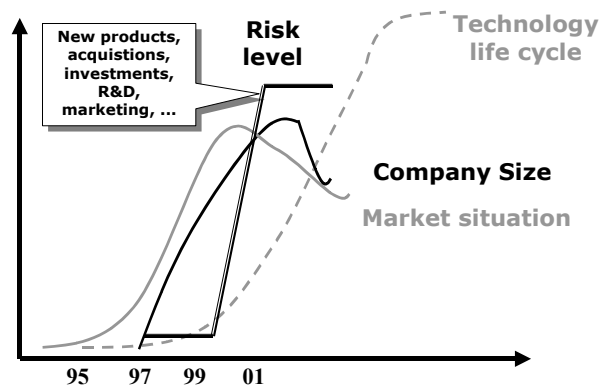


Figure 7. Growth from 1997 to 2001 (not in scale).

In sum, the role of the board was mainly legalistic, because it was internal and the management mainly created strategy and its alternatives. More outside directors could have opened the discussion about the views of the top management. As there were several manager-owners in the board, the relative power of the few outside directors was weak, as they, unlike the manager-owners, did not have the incomparable information about the firm.

SYNTHESIS FROM THE LITERATURE, THE CASE STUDY AND THE INTERVIEWS

States of Growth and strategic management

The first stage of the growth is the pre start-up that could be regarded as the time before the actual firm is founded or, as in AtBusiness case, the time when the company invents new products and develops them through customer projects. For small firms, strategy in this state means, first of all, a strategic worldview (Näsi & Aunola, 2002a, 2002b). New internet-based technologies started to emerge in mid 1990's and the founders of AtBusiness recognized the opportunities of the internet-based technologies. In the beginning they did not even have a clear image of the products, only ideas and assumptions about the benefits of new technology. In Atbusiness, this meant setting principle guidelines for actions or, in fact, guidelines for what not to do. The right strategy will emerge through customer interactions. As stages do not really exist so that they could be clearly distinguished from each other, the pre start-up stage could thus rather be called a 'state'. The state described here could be called 'strategy as worldview'. This 'worldview' should also be shared by the company's customers, who at this point are innovators and early adopters.

Next, in the start-up state, the firm has to start making decisions. This was done at AtBusiness by selecting the most promising products from 40-50 product and service ideas. At this point the pure 'worldview' does not work any more. It cannot be applied to everything as the resources of the entrepreneurial firm are scarce. A new venture does not normally have capital

or even management resources to diversify at early stages of the development. The new venture needs to concentrate on something niche or on a somehow limited market segment. One of the most useful marketing constructs to become integrated into high-technology marketing is the concept of a 'whole product' (Levitt, 1986). The concept identifies four different perceptions of a product: a generic product, an expected product, an augmented product and a potential product. A generic product is what is "shipped in the box". Other perceptions could include for example a variety of products in information technology such as cables, training, support, consulting, additional software, additional hardware, system integration, installation and debugging. In reality, this means e.g. up-stream and down-stream integration in value chain, acquisitions, partnerships, alliances etc. The new venture starts setting boundaries around the business idea (Näsi & Aunola, 2002a, 2002b). At the same time the total risk level gets bigger. The company has to take into account not only technological risks but also financial risks and risks in partnerships and alliances. In the terms of strategy, this state can be called 'strategy as boundaries'.

The first two states emerge during the 'early market', but the whole game will change in the third state ('the growth'). The new venture's products and services around the generic products ('the whole product') are almost ready or partly outsourced to partners. This state includes "crossing the chasm". Winning of the early majority business is then the key to any substantial profits and growth. Early Majority wants to see well-established references before investing substantially. In comparison to the innovators, the early majority wants to buy a productivity improvement for existing operations. They look for minimizing the discontinuity with the old ways (Moore, 1998). Strategy starts thus to become more structured and may even form an operations model. This also means that strategy becomes more sales and marketing oriented. In this state, the new venture needs to make decisions about sales channels and also to take into account possible channel conflicts. This state is called 'strategy as structure'.

After a short, but a rapid growth period, the new venture is not actually new or small any more. More people are involved in strategy making that forces the structure to become more formal and standardizes the communication between people and units. The last state of the new venture can be called 'strategy as plan'. These four states from a strategic perspective are described in Figure 8. The spheres of V2C and VC together with customer groups of the technology adoption life cycle have also been added.

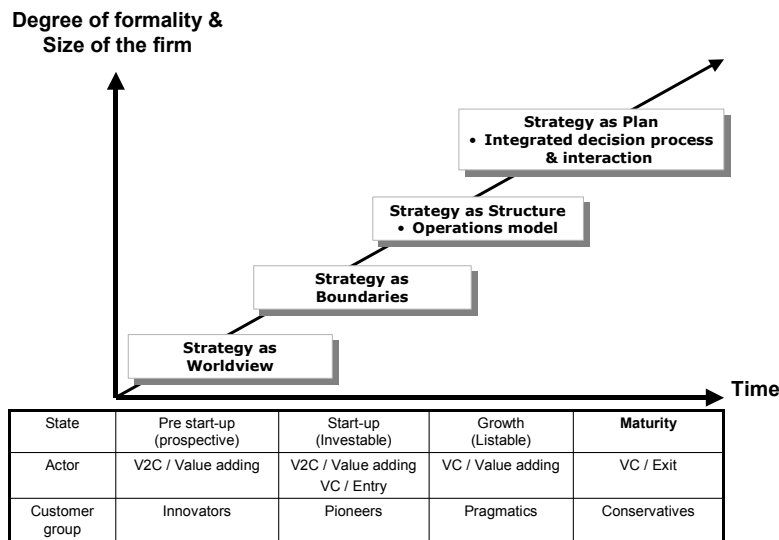


Figure 8. States of Growth from a strategic point of view.

Who will fill the knowledge gap?

The answer is a board of which members are able to direct the firm actively and open the discussion about the views of the top management. Such a board includes a sufficient number of independent non-executive members with appropriate competencies. This kind of a board could be a valuable resource for an entrepreneurial firm. As forming a well-functioned board can take a long time, it is important for an entrepreneurial firm to start to form such a board from the very beginning. The biggest problems in forming the board are probably finding the persons with appropriate competencies and with enough time to invest for an entrepreneurial firm for a period of about 4-5 years. Another big problem is how entrepreneurs let outside directors participate in strategic decision making. Whereas VC players concentrate on making “investable” ventures into “listable” ones, V2C players push ‘prospective’ ventures to becoming “investable” (Seppä, 2002). Furthermore, venture capitalists normally participate directly in the governance of their portfolio companies. Currently, there are no formal V2C players who could fill the knowledge gap at the boardroom and in addition V2C players’ lacks appropriate image as VC has among the entrepreneurs. Basically, the task of the board is also to take care of the consistency of the strategy in transitions from a state to another even when there are changes among the owners or the CEO has been replaced (see also Figures 8 and 9).

Changing role of the board

A strategic board in this paper is defined as *a board that is able to direct the firm actively and open the discussion about the views of the top management. This also means that a board includes a sufficient number of independent non-executive members with appropriate competencies. When a board is strategic, it really gains more value as an institution.*

The basic role of the board is financial control. Especially in the early states of the development it is impossible to direct new ventures based on the information provided by accounting and financial reports. Firstly, financial reports show only the history of the firm

but they do not predict or describe the future. Secondly, events tend to happen so fast that normal financial reports are already out of date when they are published. Thirdly, as the risks tend to be mainly technological, social or legal, financial reports seldom show clearly what the real risks are. Financial control comes into picture in the start-up state (strategy as boundaries) by reporting financial risks (e.g. capital expenditure, cash flow). Financial control is at its most important in the growth state when a new venture needs to balance its profits and growth.

The organizational control, which could rather be called 'organizational contribution', plays an important role from the beginning. Its most important task is to evaluate, to hire and, in addition, to fire the CEO and other key executives. During the first two states it is also important to set incentive systems for management and external V2C-players. During the growth state, the changes in the key executives could be disastrous as the executives are familiar with the company and its policies whereas new executives would have considerable difficulties in getting to know such a fast growing company well. The organizational contribution enters the picture again after the growth state as working in an entrepreneurial firm is different from working in a mature firm. Some persons do not have appropriate competencies for both states.

Although strategic boards are preferably smaller, entrepreneurial firms provide a context where larger boards with non-executive members may prove beneficial. This has been found to be consistent with directors' service and resource roles (Daily & Dalton, 1993, Boyd 1990). The service tasks are definitely the most valuable during the first two states. Some of the services that have real value for a new venture in early states include, for example, the first installation of a new product (the first order), the first real success story, access to comprehensive and active sales channels, a contract with partner (access to alliance). Later on the relative importance of the service role will be lower.

Last, but not the least, is strategic contribution. Strategy can be divided into three parts: strategy process, strategy content and strategy context (Pettigrew, 1985). The strategic contribution of the board can be divided similarly. The board should also develop the strategy process of the firm, not just evaluate the presentations of the CEO. Knowing how the top management think and what their views are based on makes it easier for a strategic board to open the discussion about the top management's views, and also to evaluate the basic assumptions, not just the conclusions. Strategy content can be divided into business strategy (business, functional, network) and corporate strategy (see also De Wit & Meyer, 1999). Whereas business strategy concentrates on competitive strategy, corporate strategy deals more with higher-level issues such as visions and values.

Issues such as risk management, economic situation and ownership strategy can also be added as contextual issues. Venture capitalists and also separate funds have formed their investment strategies and criteria, which is not that common among business angels or entrepreneurs. However, there can be conflicting interests between different types of owners. Furthermore, according to the Finnish Companies Act, the board is only responsible to the firm, not to a single owner (Hirvonen et al, 1997). In other words, the board can only have common decision-making criteria. On the whole, the strategic contribution of the board can be multiplicity, which can really add its value. However, the relative emphasis of strategic contribution varies by the state of development. In the pre start-up state, the vision

(‘worldview’) and the mission, i.e., the direction of the new venture, are the most important matters in the beginning. The competitive strategy enters the picture in the following state. In addition, the total risk level rises rapidly during the boundaries state.

The roles are summarized in the list below.

- Financial control
- Organizational contribution
 - e.g. hire and fire the CEO and other executives
 - e.g. incentive systems
- Service tasks
 - Contacts, partners, orders, financing, etc.
- Strategy contribution
 - Strategy Process
 - Strategy Content
 - Business strategy
 - Competitive strategy, functional strategy, network level strategy
 - Corporate strategy (“Direction”)
 - Vision, mission, values, etc.
 - Strategy Context
 - Ownership strategy
 - Common decision-making criteria
 - Risk control
 - Total risk management: economic, technology, social, cultural, legal, network, etc.
 - Economic situation (external)
 - Markets, business cycles, currency rates, etc.

Figure 9 presents the states of development from a strategic point of view and the changing role of the board of directors. However, it presents only their relative importance in each state and does not take into account, for example, the Finnish Companies Act, of which main task is financial control.

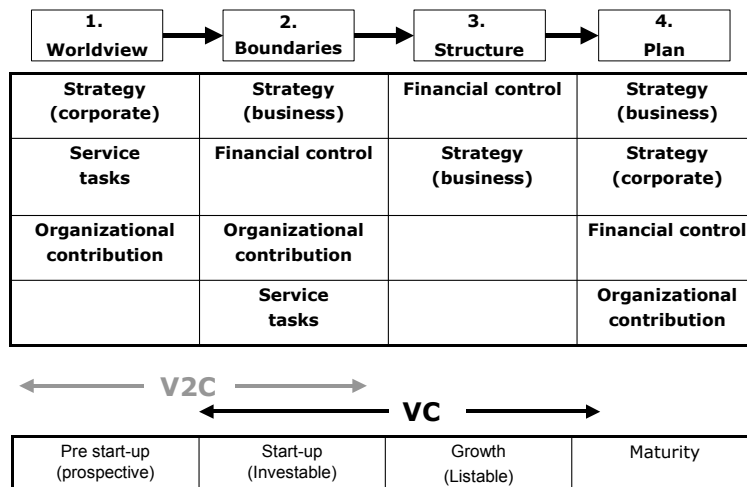


Figure 9. States of development from a strategic point of view and the changing role of the board of directors.

SUMMARY

When a board is strategic, it gains more value as an institution. A strategic board is able to direct the firm actively and open the discussion about the views of the top management. A strategic board also includes a sufficient number of independent non-executive members with appropriate competencies. The role of a strategic board varies by the state of development. It is to be kept in mind that the various states can occur at the same time overlapping with each other making the situation even more complex for the management and the board of directors. From a strategic point of view, the states are (1) worldview, (2) boundaries, (3) structure and (4) plan. The most important strategic roles of the board in the worldview state are corporate strategy, service tasks and organizational contribution. During the boundaries state it is competitive strategy, financial control, organizational contribution and service tasks which are the most significant roles of the board. In the real expansion period (the structure state), the entrepreneurial firm needs to balance the growth and the profit. At this point the most important roles of the board are financial control and competitive strategy. Finally, the new venture reaches more mature state and strategy in this state is called strategy as a plan. The most important role of the board in this state is to deal with the strategy in general, financial control and organizational contribution.

The revised model of board attributes and roles for the entrepreneurial firms in high technology (see the original model presented by Zahra & Pearce earlier in this paper) is presented in Figure 10. Feedback has been added to the model and some contextual variables have been changed based on the findings of this paper. Furthermore, as the roles should vary by the state of development, one additional link has been added from the internal context variables to the roles.

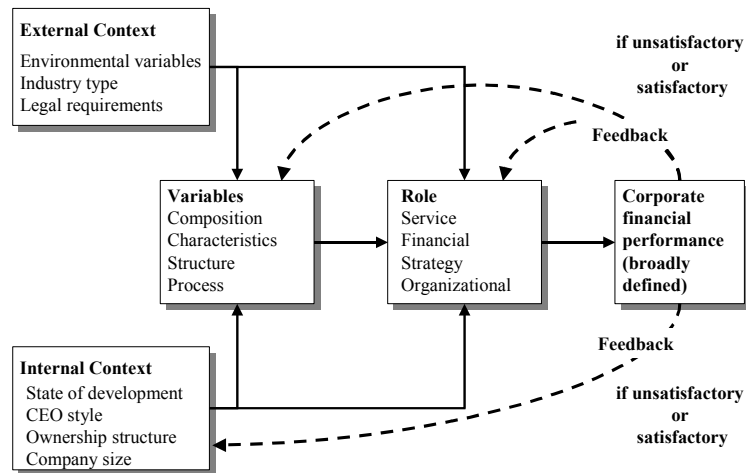


Figure 10. Revised Model of Board Attributes and Roles for the entrepreneurial firms in high-technology.

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PILOT STUDY INTERVIEW SAMPLE

Interviews conducted by phone, through the Web or face-to-face from December 2002 to January 2003.

Mika Uusi-Pietilä, Hermia Yrityskehitys Oy / eAccelerator
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 Martti Hintikka, Innofinance Oy
 Olli Lindblad, Sitra
 Markku Kivistö, Teknologiakeskus Kareltek Oy
 Tanu-Matti Tuominen, Finance Group International Finland Oyj
 Kari Kankaala, Professia Oy
 Matti Rusanen, Sentio Invest Oy