



SCALES-paper N200216

Entrepreneurial Learning

Gijs van Popta

supervised by Niels Bosma, Joris Meijaard and Wim Hulsink

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address: Italiëlaan 33
mail address: P.O. Box 7001
2701 AA Zoetermeer
telephone: + 31 79 341 36 34
telefax: + 31 79 341 50 24
website: www.eim.nl

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Preface and Acknowledgements

Learning is something humans do “24-7”. People learn from books, teachers, friends, themselves, experiences and learn all kinds of different things. They learn things that are necessary to survive and things that are forgotten within five seconds. Learning makes people change, renew their behavior and cognition, and reflect on themselves. Without learning, humans would stand still.

Mortals that never seem to stand still are entrepreneurs. This special ‘species’ of mankind has been the subject of research for many years, and that is not for no reason. I have tried to combine these two ingredients, learning and entrepreneurs, in this research. It forms the thesis for my specialization trajectory Strategic Management of my studies of Business Administration at the Erasmus University in Rotterdam.

Writing a thesis on learning strategies and entrepreneurs automatically makes you reflect on your own learning and enterprising capabilities. The fact that you are busy writing your thesis – i.e. finishing your studies and life as a student - strengthens that reflection even more. Questions such as “What have I learned and undertaken in the past years as a student?”, and “How am I going to use my knowledge in the future?” constantly cross the mind. Thus, writing a thesis was a good ‘reflect on’-activity for me.

During the writing at the Erasmus University in Rotterdam Wim Hulsink was constantly thinking with me. His stimulating and at the same time rather disruptive way of coaching served as a true welcome eye-opener every time we discussed the research. As my coach, I owe Wim Hulsink many thanks.

This thesis was put in writing since the first of March 2002. I started working for EIM Business and Policy Research in Zoetermeer, a leading research agency for policy research, in short, the perfect place to write a thesis. During my work in Zoetermeer, two EIM-researchers were strongly involved in my freshman’s research activities and continuously stimulated me during the entire project. I have learned very much from and owe many thanks to Niels Bosma and Joris Meijaard. As co-reader of this thesis I am grateful to Asmat Ikram. She provided me with sharp and constructive remarks and advisory on the field and helped successfully finishing this thesis. Furthermore I would like to thank Sander Wennekers of EIM and Roy Thurik of EIM and the Erasmus University in Rotterdam for their helpful comments as well as Marco van Gelderen of the VU.

Furthermore the Guild of the Naked Chiefs served great meals whenever I needed them most. All members constantly acted as a mental backup whenever I needed them. I also owe Heeren 13 many thanks for the sports breaks and bar training sessions. Without the Holiday Crew I know I wouldn’t have survived. Joost and Bruce Brown, I owe U. During this thesis project my family supported me with all means imaginable. Benne, Annelies, Rachel, thanks! But, most important of all, my older brother Wouter served as a special example for me to follow. His fighting-spirit and perseverance is never ending.

The Strategic Management field has covered almost any scientific debate possible. The aim of this research was to reveal and shed light on only a small part of that strategy field. Sun Tzu and years later Machiavelli showed us that strategy serves only as a means towards ends. The ultimate study remains still that of the ends.

Gijs van Popta,
Rotterdam, October 2002

Executive Summary

Introduction

The questions that form the guide for this research are the following:

How do entrepreneurs and their new ventures learn, and how are they involved in dynamic learning processes? What typologies of learning entrepreneurs and organizations can be theoretically distinguished and empirically found in the Dutch entrepreneurial landscape? A theoretical as well as an empirical analysis of the issues provides answers.

Theoretical framework

The research question was dealt with by distinguishing key individual and organizational learning processes from literature. Typologies of learning entrepreneurs and organizations, which are used in the empirical part of this research, are presented. The typology of learning entrepreneurs is derived from Kolb (1984) and the typology of learning organizations is derived from Shrivastava (1983). According to Kolb's experiential learning theory, (1984) individual learning can be best conceived as a continuous process grounded in experience. He developed a typology of learning styles that explains how individuals learn in certain situations. The styles he distinguished are the convergent learning style, the divergent learning style, the assimilative learning style, and the accommodative learning style.

Organizations can, just as individuals, perceive and process information in different ways. Shrivastava (1983) provided a typology of six different learning strategies of organizations. This typology describes the one-man institution, the information seeking culture, the participative learning system, the formal management system, the bureaucratic learning system, and the mythological learning system. These learning strategies are then subdivided into two categories, the slower learning organizations and the faster learning organizations.

Insights on small business development add a dynamic perspective to this study on entrepreneurs and their organizations.

The resulting dynamic framework consists of three stages, the nascent stage, the start-up stage, and the young enterprise stage, and of the two typologies of learning entrepreneurs and organizations.

Empirical analysis

The empirical analysis consists of secondary quantitative research in data panels containing several thousands entrepreneurs. These data were gathered, maintained and financed by EIM Business and Policy Research. Through this empirical analysis an attempt is made to find the typologies of learning entrepreneurs and organizations in the Dutch entrepreneurial landscape. Also, an analysis is done on the possible differences between the types of the typologies.

Entrepreneurial learning

The results of the empirical analyses supported the theoretical assumptions regarding the learning entrepreneurs and the typology of Kolb. The four types of learning entrepreneurs were found in the Dutch entrepreneurial landscape. These findings endorse the use of Kolb's typology in studies on learning entrepreneurs. The results make clear that this typology is a useful tool to further research entrepreneurial learning.

The results on the analysis of the differences between the entrepreneurial learning styles show that gender differences are present in the Dutch entrepreneurial landscape among the different learning style groups. Entrepreneurs that can be characterized as divergers show a relatively larger group of females. Entrepreneurs that can be characterized as accommodators also show a reasonably large percentage of males. Problems accommodators have are often related to their personnel. They cannot find qualified personnel and have personnel shortages. They indicate to have fewer problems in the young enterprise stage than in their start-up stage. Divergers mainly have problems with competition throughout the years. Assimilators mainly have problems with their liquidity throughout the years. The converger group indicated that the largest problems were related with hiring qualified personnel and the problems with regulations on the environment increased during the years.

New venture learning strategies

Evidence was also found on the two categories of slower and faster learning companies. Regarding the second pair of hypotheses it is clear that the two categories, as described by Shrivastava (1983) and Honig and Davidsson (2000), are present in the Dutch entrepreneurial landscape in the two stages of start-up entrepreneurs and young enterprises. The slower and the faster learning organizations can be identified. These findings endorse the use of this typology tool for further studying learning organizations of entrepreneurs.

Males and females are distributed evenly in the slower learning organizations. Among the faster learning organizations differences do occur. Organizations with a faster learning strategy have a relatively large group of male entrepreneurs. The education of the entrepreneurs of the slower learning organizations seems to be at a lower level than the education level of entrepreneurs of faster learning organizations.

The main goals of the owners of the faster learning organizations are to improve craftsmanship and get into new markets, while slower learning organizations express their wish to expand their housing and open new establishments. Regarding the organizational problems the results show that faster learning organizations have relatively the same amount of problems as slower learning organizations do. The problem the slower learning organizations have to deal with most is the attitude of banks. The faster learning organizations on the other hand seem to have more trouble with the development of markets.

Conclusions

The findings on the learning activities of the different types of entrepreneurs and organizations make it clear that not every entrepreneur has the same problems at the same time. Some have specific areas where they find more problems than other entrepreneurs. The others might have fewer problems all together. This study also shows that changes do occur in the amount of problems and in the problem areas during the years. Entrepreneurs should therefore be focused on their learning situation. They can identify their own personal learning style and hence be able to undertake action in the right direction upon that knowledge of the personal learning style.

Regarding the conceptual framework the empirical results enable to conclude that the framework as presented in the concluding chapter of this study can serve as a useful tool to further study entrepreneurial learning. Studying the learning activities of entrepreneurs with these typologies make it possible to get a better insight and gain more knowledge on how this special species of the human kind operate.

1 Introduction

Starting a business is a true adventure. Many entrepreneurs that take off on a new venture try their luck to get their breakthrough. Many dream of fame and glory and nowadays stories of successful entrepreneurs are sold like never before. Gates, Jobs, Walton and of course Heineken, all have their biographies. Many of today's entrepreneurs that start a new venture dream of ending up with a business empire larger than life. How to do it and how to succeed? Providing the answer to that question equals finding the Holy Grail.

In the last century, many great changes have taken place. In the last years in combination, the ICT-revolution, globalization, individualization and the demographic developments have led to large societal changes. These developments led to new opportunities for nascent entrepreneurs in starting their business. During the ICT-revolution of the 1990's, many gold diggers tried their luck in internet-ventures, especially in the United States. The only assets needed were a good computer and common sense. Many succeeded, but, now we know, even more failed.

During the quest for the Grail of success, all pieces of the entrepreneurship-puzzle require a thorough investigation. When every piece is found, it is possible to begin to draw conclusions on how to complete the puzzle, if that will ever happen. This study focuses on one specific piece, that of learning during the start-up process.

It is not a subject widely studied in entrepreneurial environments. In larger organizations the notion of Organizational Learning is known and has gained broad attention for years and years. The larger organizations develop their strategies by using and developing their learning capabilities in order to create a competitive advantage. Start-up entrepreneurs however, can also make vast progress in the construction of their competitive advantage by using their learning capabilities; this study therefore investigates entrepreneurial learning activities during the start-up process. It will do so in two levels, the individual level and the organizational level.

In the past decades it has become increasingly evident that entrepreneurship has major influence on the growth of employment, productivity and the level of innovation in an economy (Audretsch, 1998). Throughout those years the Dutch government continued to try to formulate effective policy on entrepreneurship, either through the removal of obstacles or by providing incentives to create opportunities for new business formation. Today, nascent and start-up entrepreneurs¹ form an important group of our national economy. They create flexibility and employment for many people. In the Netherlands in the years 2000 and 2001 around 60,000 firms were launched each year. In these years about 70,000 people were involved in these start-ups. The total amount of active businesses in the Netherlands on 1-1-2002 was nearly 1,000,000. 85% of these firms were firms with either no full time employees or firms with up to 4 full time employees (www.kvk.nl).

Many studies have been conducted on the different aspects of entrepreneurship in the Netherlands (EIM/EZ, 1998, 1999, 2000, 2001). Researchers focused on different levels of entrepreneurship, reaching from the entire Dutch economy to the traits of different types of entrepreneurs. These studies presented ideas on how to improve the climate

¹ In order to write a better readable thesis, the entrepreneur is referred to in the masculine form. The author of this thesis is aware of the fact that this is a biased approach.

for entrepreneurship and gave practical information for entrepreneurs themselves. Also, universities gradually increase their interest in the subject. New curricula with business, economic, and other theory on entrepreneurship are formed and students are increasingly interested. Many business students even want to start their own business. By statistically analyzing more than 2,000 Dutch start-up and nascent entrepreneurs, this study presents empirically interesting information on entrepreneurial learning activity in the Netherlands. Policy makers can increase their awareness and knowledge of learning possibilities of entrepreneurs and adjust their policy measures to increase entrepreneurship potential in the Dutch society. The concrete findings can also be of practical value to entrepreneurs themselves. When studies reveal that certain issues are of major importance during the start-up, entrepreneurs can give special attention to these aspects.

The study into entrepreneurship is performed from many different points of view. Psychology has contributed by studying personality and character traits of entrepreneurs (McClelland, 1961). Sociology has contributed by studying societal and contextual influences on entrepreneurial behavior and historical as well as anthropological studies have been conducted into entrepreneurial behavior (Choenni and Choenni, 1998). The economical studies mainly contributed by studying the role entrepreneurship plays in the entire economy. Economic growth and technological development gain special attention in these studies.

Within the economic theory, different approaches in studying entrepreneurship are possible. These different approaches have several different consequences. Classical economic theory presupposes perfect information and rational decision-making. Therefore, entrepreneurial functions like coordination, arbitrage, innovation and risk taking receive insufficient attention (Bhidé, 2000). Basic microeconomics, agency theory, behavioral economics and others leave out certain important variables, but provide useful insights and tools for entrepreneurship research.

When studying entrepreneurial activity, the multidisciplinary business research can provide a more fundamental theoretical framework. Business research is focused more on innovative activities and entrepreneurial functions. The underlying entrepreneurial qualities of changing existing equilibriums and creating new and disruptive activities are better assessed in these kinds of research. However, in business research much attention has gone out to the routines of large enterprises. These studies are not easily applicable to the start of new ventures because new ventures often start in an ad hoc way. Still, they provide an invaluable reference point for an empirical study of new businesses (Bhidé, 2000). Thus, this study uses multidisciplinary business theories as its basis for studying entrepreneurship.

1.1 Levels of analysis

The study of learning activities of entrepreneurs is a multi-level topic. It involves both people and organizations. People learn and contribute to organizational structures, meanings, and contexts, that contribution constitutes organizational learning. Organizations provide structures and shared meanings, and contexts for action and communication in which people learn (Nooteboom, 2000: 121). Thus, to understand learning at these different levels, it is necessary to choose the appropriate theories for the research of these levels.

The different learning levels of individuals and organizations represent different learning processes. However, they are closely related and intertwined. The entrepreneur and the organization go through different stages of development with different characteristics. Important is the role they play relative to each other. They develop and change through

time, but not independently. The development of one can have implications for the development of the other.

This study into dynamic learning processes thus has two different levels of analysis. The first level is that of the entrepreneur; the second level is the level of the organization. These levels form the underlying basis of this study. They both will be thoroughly examined and discussed in order to create a realistic view on the learning activities of entrepreneurs.

1.1.1 *Level 1: Entrepreneur*

Entrepreneurial initiatives are often individual. In many cases the entrepreneur wants to stay alone after the start-up period. In that case the organization consists of only one person, the entrepreneur himself. Hence, it can be argued that the entrepreneur *is* the organization. All activities he is involved in can be judged as individual operating, but also as 'organizational operations'. Thus, in the case of solo-entrepreneurs, the study into individual entrepreneurial learning activities is the same as the study into organizational learning. The learning strategies and learning activities these entrepreneurs are involved in are both individual and organizational. Therefore, the learning behavior of these individuals themselves is of major importance for this study and forms the first level of analysis, the level of the entrepreneur.

In order to analyze the level of the entrepreneur, it is necessary to correctly choose the theories that will be used in the analysis. As the starting point of this level individual learning processes are selected. The theories of individual learning are rooted in the psychological theories on knowledge, intelligence and the development of the psyche. The psychological perspectives used as a basis for this level are those of developmental psychology and cognitive psychology. The objects of research of these perspectives are mental processes and behavior and the development and change of different aspects of human functioning.

First, this study chooses to focus on the situated action perspective and experiential learning theory. It does so because the situated action perspective views cognitive structure as a result of action, and that structure, in turn, forms the basis for further action. An important scholar and developer of this view is the Swiss psychologist Jean Piaget (1896-1980). His theories are centered on the concepts of development of knowledge and form the basis for the experiential learning theories. Then, the experiential learning theory as developed by David Kolb is presented. His model, the experiential learning cycle, is a practical model and is operationalized in Chapter Four and used for the empirical part of this study.

1.1.2 *Level 2: New Venture*

The second level is that of the new venture. This level represents organizational learning behavior. During the different stages of development of the start-up it is likely that the entrepreneur will employ other people. From that moment on, the start-up becomes an organization that can be studied in terms of organizational learning. Because of the changes in operations and the division of tasks within the firm, new views are necessary on its structure. Instead of an individual initiative it now becomes a collective undertaking.

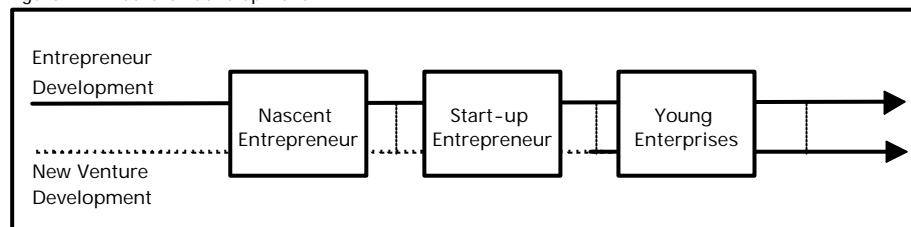
The second level represents the organizational learning activities. It focuses on organizational operations and routines. In case of solo-entrepreneurs, this level, as discussed earlier, shows the same characteristics as the first level, but seen from a more dynamic point of view, these start-up entrepreneurs may expand their operations in the future and hire one or more employees and therefore are engaged in creating an organization.

The new venture level analyzes the firm's learning activities. To analyze these correctly, it is necessary to explain why firms learn and how they learn. The theoretical analysis is started with the theories on core competencies and the Resource Based View. The latter views resources as a basis for sustained competitive advantage. This theory provides a useful basis for analyzing organizational learning activities within established firms. To be able to analyze organizational learning activities within start-up organizations, a more dynamic view of resources is necessary. This view is offered by the Dynamic Capabilities theory. This theory is highly applicable in regimes and environments of rapid and unpredictable change and can answer the question on why firms learn. Subsequently, theories on collective and organizational learning more specifically assess the firm's activities and operations in terms of organizational learning. Finally the organizational learning systems as proposed by Shrivastava (1983) are presented. These systems are operationalized in Chapter Four and used for the empirical part of this study.

1.2 Dynamic perspective

Far ahead of his time, the ancient Greek philosopher Herakleitos new it already, 'Πάντα Ρεῖ', or 'Everything flows'. He argued that nature is constantly changing, from the smallest grain of sand to the stars in the sky. Because of this continuous change, he stated that all laws and boundaries are static and artificial. The only true existing thing is change, everything else is perceived as figments of people's imagination. Even today authors argue about whether the question if boundaries do exist still remains. And even if so, it can be very difficult to point them out (Storey, 1994:122). All in all, to study entrepreneurial learning activities it is undoubtedly necessary to use a dynamic perspective.

Figure 1.1: Paths of development



Source: Own research

This study specifically focuses on two paths of development that occur simultaneously. The first is the development of learning processes and activities of both the entrepreneur and the new venture. This development is individual for the entrepreneur and collective for the organization, however, they cannot be analyzed independent from each other.

Within this path of development lies the second path this study focuses on, the development of small businesses in general. Many different views exist on organizational growth theories. This study views resources as an important aspect in explaining growth and therefore, the theory of organizational growth that is used is the life cycle theory (Greiner, 1972; Churchill and Lewis, 1983, Scott and Bruce 1987).

This study concentrates on the period from the initial starting point of nascent entrepreneurship up to the stage where the young enterprises are four years old. During the entire period different stages of development can be distinguished each with their own specific characteristics. Throughout these stages the roles of the entrepreneur and of the organization are changing constantly. This study distinguishes three main stages of development: the nascent phase, the start-up phase, and the young enterprise phase.

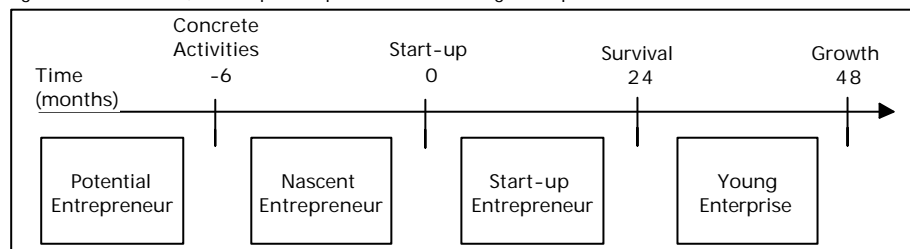
The two different paths of development are analyzed together. Hence it becomes possible to compare the different stages of development of the organization in general and the learning activities in these stages. It then becomes clear in which stage which learning processes are crucial for the organization and for the entrepreneur, thus creating a path of learning phases.

1.2.1 Definitions and notions

Starting a business is the beginning of the struggle for success. But what is meant by success depends on the circumstances. Success can be defined as growth of jobs, growth of turnover, or growth of profit; it can also be defined as satisfaction or survival. Besides success itself, scholars have posed different attitudes and claims towards the attainment of success. Some say new firms need to place themselves in an attractive position within the industry structure thus creating competitive advantage, which eventually should lead to success (Porter, 1991). Others choose, instead of this pull approach, a push approach and claim that new firms create sustainable competitive advantage through firm specific resources and capabilities (Barney, 1991). These different views result in different assumptions regarding entrepreneurial activity. It is important to keep these differences in views on success and competitive advantage in mind. This study is about nascent entrepreneurs, start-up entrepreneurs and young enterprises up to the age of four years. But who are they? Do they form distinct groups or can they be placed in a continuum? One thing is clear, however, to be able to study nascent and start-up entrepreneurs, it is important to agree on certain definitions.

The empirical part of this study deals with data on about 2,000 entrepreneurs. The gathering and maintenance of this data is financed and carried out by EIM Business and Policy Research in Zoetermeer. The definitions of nascent and start-up entrepreneurs, and young enterprises EIM uses, are presented in figure 1.2.

Figure 1.2: Nascent, Start-up Entrepreneurs and Young Enterprises



Source: Van Gelderen, 1999, Own research

Nascent entrepreneurs are persons that, individually or with other persons, are engaged in the start-up of a new business. 'Engaged in' in this definition means that these persons have carried out actual actions with regard to the start-up. Persons that cherish some vague plans but have not done anything concrete will not be taken into the sample of nascent entrepreneurs. They are considered as (passive) potential entrepreneurs. People that are engaged in starting a business for their employer will also not be taken into the sample of nascent entrepreneurs.

Four criteria have been set in order to evaluate whether someone is a nascent entrepreneur or whether someone is a start-up entrepreneur. These are:

- The new business is fully financed.
- The new business is registered at the chamber of commerce.
- The products/services of the new business are ready for sale.
- The entrepreneur has already earned an income.

People that meet not more than three of these criteria are still considered as nascent entrepreneurs. People that meet all four criteria are considered as start-up entrepreneurs (Van Gelderen, 1999).

1.3 Research Design

1.3.1 *Research objective*

The objective of this study is to present valuable insights on the concept of learning relevant for entrepreneurs and their new ventures both theoretically and empirically. A thorough review of the leading literature and theories results in the presentation of a conceptual framework of learning activities of entrepreneurs and their new ventures. This framework is used in order to statistically analyze a large sample of Dutch entrepreneurs. The empirical part of this research results in concrete findings on the important aspects of entrepreneurial learning activities in the Dutch entrepreneurial landscape. This study therefore contributes to and attempts to further develop the entrepreneurial learning debate.

1.3.2 *Research questions*

How do entrepreneurs and their new ventures learn, and how are they involved in dynamic learning processes ?
What typologies of learning entrepreneurs and organizations can be theoretically distinguished and empirically found in the Dutch entrepreneurial landscape ?

To answer these questions the following sub-questions need to be answered:

Theoretical Part:

- 1 What are the key individual and organizational learning processes that can be distinguished from literature ?
- 2 What typologies of learning entrepreneurs and organizations can be theoretically distinguished ?
- 3 How do small businesses develop over time ?

Empirical Part:

- 1 Can the typology of learning entrepreneurs be found empirically in the Dutch entrepreneurial landscape ?
- 2 Can the typology of learning organizations be found empirically in the Dutch entrepreneurial landscape ?
- 3 Is it possible to find differences between the different groups ?

1.3.3 *Research methodology*

The methodology used in this study consists of two parts. The first is a thorough theoretical analysis of the leading international literature on individual and organizational learning processes. Secondly, perspectives on small business development will be provided. These two analyses lead to a conceptualization of dynamic learning processes in a framework in which entrepreneurial and organizational learning processes are charac-

terized in different development stages as certain typologies. Consequently, hypotheses that are to be tested in the empirical part of this chapter concerning these dynamic learning processes are presented.

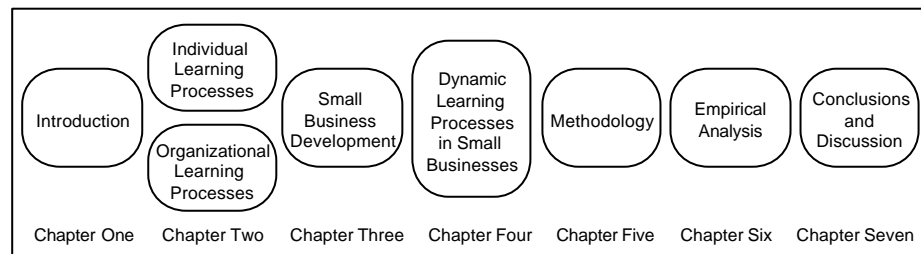
The second part is a statistical analysis of data on more than 2,000 Dutch entrepreneurs who are questioned about their new ventures. The data is from the year 1998 in which three different stages of entrepreneurship are questioned, the nascent entrepreneur, the start-up entrepreneur and the young enterprise. EIM Business & Policy Research was responsible for the collection of the data. The analysis leads to conclusions on the hypotheses as presented with the framework.

After the theoretical and the empirical part a confrontation between the findings on both will lead to conclusions and discussion points regarding the research.

1.4 Chapter overview

Chapter One provides an empirical and theoretical introduction on the subject. Also, the research objective, questions and methodology are presented. Chapter Two presents a theoretical analysis of individual and organizational learning processes at the two levels of analysis (entrepreneur and organization). Chapter Three discusses how entrepreneurs and their organizations develop through different stages over time. The focus will be specifically on the characteristics of both the individual and the organization in the different stages. In Chapter Four the Chapters Two and Three are integrated into a conceptual framework with typologies of dynamic learning processes of entrepreneurs and their organizations. Chapter Five examines the methodology for the empirical part of this research. Chapter Six presents the empirical context as well as an empirical analysis. Chapter Seven provides conclusions from and a discussion on this study.

Figure 1.3: Chapter Overview



Source: Own research

2 Learning Processes

This chapter starts with an evaluation of aspects and characteristics of the entrepreneur and presents insights on the entrepreneurial learning debate. It explains why and how this study deals with the subject. It then continues to provide a review of the learning processes that take place at the level of the entrepreneur and at the level of the new venture. The aim of this chapter is to provide well-founded and justifiable typologies on learning styles of individuals as well as on learning systems of organizations and thus providing an answer to the first and second sub-questions of the research questions. This chapter starts with theory on the entrepreneur, thereafter in section 2.2 a review on individual cognitive development and learning processes is provided. Central attention is given to experiential learning and the environment in which individuals learn. Following the individual learning processes, in section 2.3 a review is presented on organizational learning processes. First, various perspectives on why organizations learn and learning capabilities are reviewed. Then, organizational learning processes are described using a brain metaphor for organizations. This chapter concludes with the presentation of a typology of learning individuals and a typology of learning organizations.

2.1 Entrepreneurial learning

To get an understanding of what entrepreneurial learning exactly means, it is first necessary to gain insight in entrepreneurship and entrepreneurs. This section therefore starts with an overview of some of the relevant entrepreneurship literature. Aspects of entrepreneurship, entrepreneurial success determinants, and characteristics of the entrepreneur all pass in review. The section concludes with some notions of the entrepreneurial learning debate.

2.1.1 *The Entrepreneur*

“Individuals who start their own businesses,” - that is the definition of entrepreneurs used by Bhidé (2000). He explains that, through the years, theorists have attributed various functions to entrepreneurs, among them coordination, risk taking, innovation, and arbitrage. Leading theorists have also brought up various kinds of aspects of entrepreneurship. Thurik and Van Dijk (1998) summed up some of the most important of these aspects, as can be seen in table 2.1.

Table 2.1: Aspects of Entrepreneurship

	Risk and Uncertainty	Opportunity seeking	Entrepreneur is money-lender	Starting new ventures	Importance of personality	Importance of profit	Entrepreneurship is production factor	Role of manager	Importance of innovation
Cantillon	+++	++	+	0	-	++	+	0	0
Say	++	0	-	+	0	0	++	+++	++
Bentham	+	0	0	0	0	+++	0	++	+++
Thünen	+++	0	-	+	0	++	0	-	+++
Marshall	+	++	+++	0	0	++	0	+++	0
Menger	-	+	-	0	++	++	0	++	0
Knight	+++	0	-	0	0	+++	0	-	+
Schumpeter	-	+	-	0	++	+	0	-	+++

- : Aspect explicitly excluded

o : Aspect not included

+

++ : Aspect explicitly included

+++ : Aspect is essential to the theory

Source: Thurik, R, and Dijk, B van (1998)

The role of risk and uncertainty is often mentioned as an essential part of the entrepreneurial function. Another aspect is opportunity seeking. Theorists were intrigued by the question why entrepreneurs would find opportunities while other people would not. The entrepreneur can also be seen as an investor in projects by lending money for projects or other ventures. Theorists also stated that entrepreneurs are people who are engaged in the start-up of a new venture and that making profit is an essential result of their activities. Sometimes, theorists stated that entrepreneurs are just a production factor as capital and labor. There were also discussions on the differences between managers and entrepreneurs and on whether or not innovative pursuits are characteristic for entrepreneurs.

In their overview, Thurik and Van Dijk used an economic perspective and put forward aspects of entrepreneurship that are related to functions or behavior of entrepreneurs. Importance of personality, however, relates to the character of the entrepreneur. The role of risk and uncertainty relates to both the character and the behavior of the entrepreneur. The micro-economic discipline focuses on function and behavior whereas the multidisciplinary business theories focus on all kinds of aspects of the entrepreneur. It uses, for instance, psychological theories to isolate character traits of entrepreneurs. Also sociology is used in order to analyze external factors that influence the process of entrepreneurship.

2.1.2 Entrepreneurial determinants of success

Success determinants of entrepreneurs have been widely investigated (Van Praag, 1996). In her research, Van Praag shows that many theorists have come up with many different determinants. Classic success determinants are shown in table 2.2. They include foresight, alertness, and willingness to take risk (Cantillon, 1931); Perseverance, judgment, knowledge of the world, knowledge of business, knowledge of the occupation, supervisory ability, being able to deal with risk, own capital, ability to obtain capital, and motivation (Say, 1845); Leadership, intelligence, general skills (depending on family background and education), knowledge of the trade, foresight, alertness, administrative skills, own capital, and willingness to take risks (Marshall, 1961); Decisiveness,

analytical skills, and leadership (Menger, 1950); Ability to deal with uncertainty, self-confidence, venturesomeness, foresight, leadership, intelligence, and good luck (Knight, 1921); Initiative, authority, foresight, perseverance, mental freedom, leadership, strong will, creativeness, own capital, desire to create, and attitude of environment (Schumpeter, 1934, 1942); Creativeness, leadership, and alertness (Kirzner, 1979, 1981). Impact of these determinants on success is studied by Van Praag (1996).

Table 2.2: Determinants of successful entrepreneurship

	Success	Start and be a successful entrepreneur
Cantillon		Alertness and foresight, Bear risk
Say	Judgment, perseverance, knowledge of the world, business and occupation	Bear risk
Marshall	Intelligence, general ability (dependent on: family background, education, innate ability), Knowledge of the trade, Power of forecasting, Ability to bear Risk, Leadership, Own capital	Good fortune Father entrepreneur
Schumpeter		Leadership
Knight	Ability to deal with uncertainty: self-confidence, venturesomeness, foresight, intellectual capacity	Certain industries, Good luck
Kirzner	Creativeness and leadership to exploit profit opportunities	

Source: Van Praag, 1996

2.1.3 Characteristics and entrepreneurial learning research

Studies into the personality attributes of entrepreneurs show several similar traits of entrepreneurs. Bhidé (2000) describes McClelland's study (1961) as pioneering research that tries to identify the personality attributes that characterize the entrepreneur. McClelland's study showed that need for achievement is such an attribute. Bhidé (2000) also mentions the risk taking propensity, the internal locus of control (the belief that personal effort is the primary determinant of outcomes), tolerance for ambiguity, and Type A behavior which is an incessant striving to achieve more and more in less and less time. However, Bhidé (2000) states that the studies have not yet yielded any convincing results.

Also, Baron (1998) explains that studies of the personal characteristics of entrepreneurs generally yielded disappointing results. His perspective is that a growing number of researchers recently adopted a different approach and started with emphasizing the role of cognitive processes in entrepreneurship. Baron studied several cognitive mechanisms among others counterfactual thinking, affect infusions, and the planning fallacy (Baron, 1998).

The understanding of the learning process relating to entrepreneurs is of great importance (Sullivan, 2000). Various authors have presented their ideas on the main items. According to Wyer et al. (2000) the key issues are centered around whether strategic learning within a small business lies predominantly in the hands of the owner-manager, or whether the small business is driven by a wider collective learning which anchors in the learning and understanding of other organizational members.

Cope and Watts (2000) explain in their study on learning by doing that entrepreneurs learn through critical learning events. For a small business to grow, the entrepreneur

must adapt and change as the enterprise moves through its life cycle. Entrepreneurs apprehend new behaviors and learn to think in radically different ways as a result of managing developmental crises within the organization. This causes permanent change, both for the individual and for the business. Their study leans on the ideas of Greiner (1972), Scott and Bruce (1987), and Churchill and Lewis (1983). Each business is unique, but the life-cycle theory explains that all face similar growth challenges (Cope and Watts, 2000).

So far, there has not been typology research for learning entrepreneurs. Yes, ideas on how entrepreneurs might learn and what kind of cognitive mechanisms entrepreneurs use have been presented (Baron, 1998; Cope and Watts, 2000), but a classification of learning styles among entrepreneurs has not been studied yet. Therefore, this research tries to use an interdisciplinary approach and focus on both the learning individual and the learning organization. For the first focal point, a psychological approach is needed, and for the latter organizational theory is required. This study therefore proceeds in working out these two research areas, in order to come to a conceptual understanding of entrepreneurial learning.

2.2 Individual learning processes

This section focuses on the learning individual. It starts with a psychological approach on individual cognitive development and continues with reviewing the environment and the social context of the individual. It concludes with the experiential learning theory.

2.2.1 *Individual cognitive development*

The early psychological discussions about intelligence and cognitive development were rooted in the nativism perspective and the empiricism perspective. Several centuries ago the “nature” viewpoint of the biological-maturation school and the “nurture” viewpoint of the environmental-learning school dominated the discussions. The development, it was argued, was derived from either nature, or nurture.

Nooteboom (2000) discusses two views on knowledge, on the one hand the computational-representational view, and on the other the situated-action perspective. The computational-representational view assumes that knowledge is constituted from symbolic mental representations and that cognitive activity consists of the manipulation of (these symbols in) these representations. Crucial to this view is the implicit assumption that the representational elements are well defined. Action is based on knowledge and on meaning. These inhere somehow, independently from context and action. Hence, cognitive activity is executed through computation on mental representations. This means that the initial state is also a mental representation, thus all knowledge must be innate. But, if all knowledge is innate, learning makes no sense.

The other perspective Nooteboom presents, the situated-action perspective, is opposite from the computational-representational view in several important aspects. Whereas the latter presents action based on cognitive structure, the former argues that action is not based on cognitive structure but actually the other way around: cognitive structure is based on action. The cognitive structure that arises from action, in turn, is self-supporting. It forms the basis for further action. Action yields cognitive structuring, which provides a new basis for action, as Nooteboom (2000) puts it. The situated action perspective provides a good basis for dealing with the entrepreneur level of the two-level analysis of learning.

As already mentioned, the situated action perspective shows how knowledge is constructed according to present cognitive structure, but also how that structure is adapted

on the basis of experience. The environment in which experience and action take place has influence on cognitive development. Whatever the environment in which action takes place, it does not only constitute an evolutionary selection environment, with the negative function of selecting out what has the least fitness to that environment. It also has a positive function of selecting from cognitive repertoires to fit the context and strengthening what is successful. The environment therefore contributes to cognitive development (Nootboom, 2000).

Cognitive behavior and environment

Jean Piaget (1950), an influential Swiss psychologist, broke with the psychological traditional arguments about nature versus nurture by introducing his view on intelligence and cognitive development. His focus was on the interaction between the children's naturally maturing abilities and its interactions with the environment.

Piaget points out that individuals constantly try to form an equilibrium between themselves and their environment. If that equilibrium is disturbed, the individual will adapt and re-adapt to the environment.

He continues by arguing that behavior (as conceived by psychology as functional interaction) contains two 'essential and closely interdependent aspects'. These are an affective aspect and a cognitive aspect. The affective aspect represents goals and values of behavior. Affection, feeling, thus directs behavior. In fact, it creates an awareness of ends, whereas the cognitive aspect represents the means. These means, the intelligence, provide the technique to reach the ends articulated by feeling. Hence, Piaget points out that every action contains both an energetic or affective aspect and a structural or cognitive aspect. The affective aspect and the cognitive aspect are inseparable although distinct (Piaget, 1950: 6).

Regarding the cognitive aspect, Piaget explains that intelligence is not a static and sharply differentiated class of cognitive processes. Intelligence represents the structural equilibrium of behavior all cognitive processes are trying to create. Every structure is to be thought of as a particular form of equilibrium. Changing these equilibriums, means changing the structures. According to the law of development, one structure succeeds the other, Piaget argues, and this development brings about a more stable equilibrium. Intelligence is thus only a generic term to indicate the superior forms of organization of cognitive structurings, it has no specific boundaries and can develop over time.

Piaget's notion of intelligence is that it is an equilibrium of interaction between subject and object, in other words, between adaptation and accommodation. He defines adaptation as assimilation, the action of the organism on surrounding objects, in so far as this action depends on previous behavior involving the same or similar objects. The environmental objects and substances are absorbed and changed to something compatible with the organism's own substance. Mental assimilation is the absorption of objects into patterns of behavior.

Accommodation, on the other hand, is the environment that acts on the organism. The individual never actually suffers the impact of surrounding stimuli as such, but they simply modify the assimilatory cycle by accommodating him to themselves. Pressure of circumstances always leads, not to a passive submission to them, but to a simple modification of the action affecting them (Piaget, 1950: 9). From birth to adult life, the human being is subject not only to a physical environment, but also to a social environment.

Social environment

Society provides the individual with an existing system of signs, values, and obligations, which modify his thought. Evidently, social life affects intelligence. Social life affects intelligence through three media. These are language (signs), the content of interaction

(intellectual values) and rules imposed on thought (collective logical or pre-logical norms) (Piaget, 1950: 171).

Society is of course a vague concept and Piaget speaks of society as the total set of relations and interaction between the individuals composing it. These relations are numerous and extremely complex because they carry with them the heritage of history and the actions of successive generations. Hence, the concept 'effect of the social environment' is also very vague when not described in detail. Human beings are, during their course of life, constantly subject to social pressures of extremely varied types. These pressures are subject to a certain order of development. The social environment gives rise to interactions for the developing individual in such a way that acquisitions can be followed step by step as a function of experience, especially as a function of the kinds of assimilation or accommodation that govern these acquisitions. The interaction with the individual and his social environment is widely varied, depending on the level of development of the individual. At the same time the social environment continuously changes the individual's mental structure in an equally varied way.

The question Piaget now puts forward is whether the coordination of operations of individuals is the cause or the effect of cooperation with others. In his theory, Piaget advocates the view that children move outward from their cognitive constructs to recognitions of the social other, thus viewing coordination of operations as the cause for cooperation. The opposite view is that the social other is the source of the acquisition of knowledge and language. The origins of this view, the socio-cultural approach, of cognitive development can be seen in the work of Lev Vygotsky (1896-1934).

This Russian scholar argued that children develop understanding and expertise through a form of apprenticeship. Other, older, more knowledgeable children help younger ones to develop new skills and learn more about the world (Atkinson et al. 2000). Vygotsky distinguished between two levels of cognitive development, the actual and the potential level of development. The actual level represents the individual problem-solving ability whereas the potential level of development represents the problem-solving ability when guided by a more knowledgeable person. He argued that to understand cognitive development of children, it is necessary to know both the actual as the potential level of development (Vygotsky, 1978).

Thus, a more knowledgeable environment can help others to develop new skills and learn more. It is therefore important to know what the process of learning in such an environment is about.

Contextual perspective

The individual is an active part of the environment, a participator in society. Thus, the individual is situated. Learning consists of a question of having information, skills and understanding, and an ability to determine what information, skills and what understanding is relevant in a certain context.

In situated cognition, learning is viewed as a situated activity that has as its central characteristic a process called legitimate peripheral participation (Lave & Wenger, 1991). Learning individuals inevitably participate in communities of practitioners and the mastery of knowledge and skill requires newcomers to move from peripheral toward full participation in the socio-cultural practices of a community (Lave and Wenger, 1991: 29). This perspective takes into account the context in which learning takes place. The basic unit of analysis for situated action is the activity of persons acting in setting. Agent, activity, and the world mutually constitute each other (Lave & Wenger, 1991: 33). Learning and developing thus is to be understood as a result of actively participating in a context.

2.2.2 *Experiential learning*

Active participation of individuals in a certain context will provide them with experience. The situated action perspective suggests that the experience gained is the basis for cognitive structure. David Kolb (1984) developed an influential theory on this particular basis and presents different learning styles. He argues that learning is best conceived as a continuous process, grounded in experience. Learning is the process of accumulating knowledge and involves transactions between the individual and the environment. Kolb explains that individuals can perceive and process information, i.e. learn, in different ways. This section deals with his theory on experiential learning.

The kinds of entrepreneurs and organizations that are highly successful can often be distinguished by the fact that they have an ability to learn. Not just their knowledge or skills make them successful, it is their ability to adapt to and master the changing demands of their job and career, or to explore new opportunities and learn from past successes and failures (Kolb, 1984).

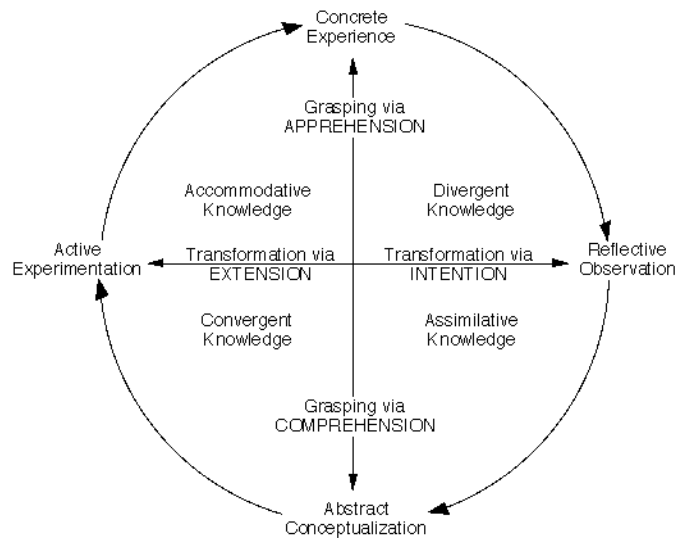
In management and entrepreneurship education, the experiential learning process sets two different goals to pursue. The first is to learn the ins and outs of a specific subject; the second is to learn about one's own strengths and weaknesses as a learning individual, in other words, learning how to learn from experience. This is in fact a combination of learning and developing new intellectual insights and gaining knowledge of the personal learning style. When individuals are testing intellectual insights in day-to-day situations, it yields experience. Combining this experience with the strengths and weaknesses of the personal learning style will result in a framework for continuing 'learning on the job'. Learning is therefore not only done in classrooms but it is an activity that becomes an integral and explicit part of work itself.

2.2.3 *Experiential learning cycle*

Different learning styles are appropriate for different environments and functions. For instance, a business executive has other personal characteristics than a university professor. The qualities required for both of these functions are rarely seen in the same person. To understand the different personal qualities and to accurately assess them in their environment, Kolb identified the most important characteristics of the learning and problem solving process. The learning process is often associated with teachers and textbooks. It is a process that is far from reality and therefore done in 'cut-off-from-life' places like classrooms. Once a person is at last finished with his education, real life can start. Problem solving, on the other hand, is a far more (inter)active and real-life process. By experimenting and taking risks, problems can be solved. It is a concrete rather than abstract process and usually specific rather than general. In order to come to a better understanding of the way people form their concepts and principles from experience that are used as a guide for their behavior in new situations, Kolb has combined the two processes of learning and problem solving in a single one.

The process is both abstract and concrete, active and passive. The obtained 'learning cycle' has four stages. The first is problem-finding in order to gain *concrete experience*. Second there is question-asking for *reflective observation*. Then comes answer-seeking which leads to *abstract conceptualization* and the last stage is the portrayal of knowledge that leads to *active experimentation*, and in turn, to new experience.

Figure 2.3: Experiential learning cycle



Source: Kolb, 1984

The learning cycle has some important characteristics. First, it is recurrent. The cycle can be rotated continuously to test concepts in experience and to modify them as a result of an observation of the experience. This means that all learning is in fact relearning. A second important characteristic is that personal goals and needs are essential to give direction for learning. When these goals and needs are not clear, the learning process can be erratic and inefficient. A third characteristic is that learning styles become highly individual in direction and process because of these personal goals and needs.

Learning modes

Kolb deals with four different learning modes to describe effective learning. These modes are designed to measure the strengths and weaknesses of learning individuals in all four stages of learning. This model was named the Learning Style Inventory (LSI) and was used as a simple self-description test, based on experiential learning theory, that is designed to measure the relative emphasis on these four learning modes during the learning stages (Kolb, 1976). It opposes concrete experience and abstract conceptualization on the first dimension. The second dimension opposes active experimentation and reflective observation. The two dimensions on which the four modes are situated represent a difference in collection and processing of information. The collection of experience is done via apprehension, which is the reliance on conceptual and symbolic representation, or comprehension, which is the reliance on tangible, felt qualities of immediate experience. The other dimension is about the processing or transforming of the collection of experience via intention, which is internal reflection, or via extension, which is active external manipulation of the external world. The modes are dealt with in the following sections (Kolb, 1984).

Concrete experience

Learning individuals must be able to involve themselves fully, openly, and without bias in new experiences.

Learning individuals with an orientation toward concrete experience focus on being involved in experiences and dealing with immediate human situations in a personal way.

The emphasis of the orientation is set to feeling as opposed to thinking; a concern with the uniqueness and complexity of present reality as opposed to theories and generalizations; and an intuitive, artistic approach as opposed to the systematic, scientific approach to problems. People with a concrete experience orientation can enjoy and are good at relating to others. These people are good intuitive decision makers and function well in unstructured situations. They value relating to and socializing with other people, being involved in real situations, and an open-minded approach to life.

Reflective observation

Learning individuals must be able to reflect on and observe new experiences from many perspectives.

Learning individuals with an orientation toward reflective observation focus on understanding the meaning of ideas and situations by carefully observing and impartially describing them. The emphasis of this orientation lies on understanding as opposed to practical application; a concern with what is true or how things happen as opposed to what is practical; and on reflection as opposed to action. People with a reflective observation orientation can enjoy thinking about the meaning of situations and ideas and are good at seeing their implications. These people are also good at looking at things from different perspectives and at appreciating different points of view, and they like to rely on their own thoughts and feelings to form opinions. These people also value patience, impartiality, and considered, thoughtful judgment.

Abstract conceptualization

Learning individuals must be able to create concepts that integrate their observations into logically sound theories.

This orientation focuses on using logic, ideas, and concepts. Abstract conceptualization emphasizes thinking as opposed to feeling; a concern with building general theories as opposed to intuitively understanding unique, specific areas; and a scientific as opposed to artistic approach to problems. People with this orientation enjoy and are good at systematic planning, manipulation of abstract symbols, and quantitative analysis. They value precision, the rigor and discipline of analyzing ideas, and the aesthetic quality of a neat, conceptual system.

Active experimentation

Learning individuals must be able to use these theories to make decisions and solve problems.

This approach focuses on actively influencing people and changing situations. The approach emphasizes practical applications as opposed to reflective understanding; a pragmatic concern with what works as opposed to what is absolute truth; and on doing as opposed to observing. A person with an active experimentation orientation enjoys and is good at getting things accomplished. These persons are willing to take some risk to achieve their objectives. They also value having an impact and influence on the environment around them and like to see results.

2.2.4 *Learning styles*

By putting the two dimensions of information collection and information transforming together a grid emerges with four different forms of knowledge. These are:

- Convergent knowledge
Experience is grasped via comprehension and transformed via extension.
- Divergent knowledge

- Experience is grasped via apprehension and transformed via intention.
 - Assimilative knowledge
 - Experience is grasped via comprehension and transformed via intention.
 - Accommodative knowledge
 - Experience is grasped via apprehension and transformed via extension.
- These forms of knowledge represent the center of four basic learning styles (Kolb, 1984).

Convergent learning style

The dominant learning abilities of this learning style are abstract conceptualization and active experimentation. The strength of a *Converger* lies in problem solving, decision-making and the practical application of ideas. This learning style is often found among people who prefer to deal with technical tasks and problems rather than with social and interpersonal issues. In organizations, it is a characteristic typically observed among engineers and technical specialists.

Divergent learning style

As opposed to the *Converger*, the *Diverger* emphasizes concrete experience and reflective observation. The strength of this learning style lies in imaginative ability and awareness of meanings and values. Also, individuals using this style are particularly able to view concrete situations from many perspectives and to organize many relationships into a meaningful interpretation. *Divergers* are more observation than action oriented, they are interested in other people and tend to be imaginative and feeling oriented. This learning style is often found with persons that have broad cultural interests and tend to specialize in the arts. In organizations, it is a characteristic of organization development specialists and personnel managers.

Assimilative learning style

The dominant learning abilities in this learning style are abstract conceptualization and reflective observation. Its strength lies in inductive reasoning, the ability to create theoretical models, and in assimilating disparate observations into an integrated explanation. This style is less focused on people and more on ideas and abstract concepts, as in the convergent learning style. However, *Assimilators* do not judge ideas by practical value, but by the logically soundness of the theory and its preciseness. This learning style is a characteristic of individuals in the basic sciences and mathematics rather than the applied sciences. *Assimilators* are likely to be found in research and planning departments of organizations.

Accommodative learning style

Accommodators have the opposite learning abilities of *Assimilators*. They emphasize concrete experience and active experimentation. Their strength lies in doing things, in carrying out plans and tasks, and in getting involved in new experiences. *Accommodators* are likely to be opportunity seeking, risk taking, and action oriented. The style is named after 'accommodation' because of its appropriateness to situations in which one must adapt oneself to changing immediate circumstances. People with this learning style tend to solve problems in an intuitive trial and error manner, relying on other people for information rather than on their own analytic ability. They are at ease with other people but can be impatient. They are found in both technical fields as in practical fields such as business. In organizations, these people are often found in marketing or sales, and other 'action-oriented' jobs.

Figure 2.2 shows similarities among conceptions of basic adaptive processes of Inquiry/Research, Creativity, Decision-making, Problem solving, and Learning. The figure shows the experiential learning cycle in the center circle and a model of the scientific inquiry process in the outer circle (Kolb, 1978), with models of the problem-solving process (Pounds, 1965), the decision-making process (Simon, 1947), and the creative process (Wallas, 1926) in between (Kolb, 2000).

Figure 2.4: Research, Creativity, Decision-making, Problem solving, and Learning



Source: Kolb, 2000

2.3 Organizational learning processes

Since all the previous perspectives on learning were more or less individual, this study will now focus more into the direction of collective learning processes. As argued, learning by doing is an important way to master certain skills or knowledge. Learning is an activity that is done in physical as well as social environments and learning individuals are situated in these environments. These environments are full with other individuals that are active in learning processes and, as already seen, a more knowledgeable environment can help others to develop new skills and learn more (Vygotsky, 1978). The learning environment can be characterized as a *community of practice*.

In this collective learning context, learning by doing can be accomplished by functioning in a 'community'. These can be communities of university students, university professors, car-mechanics, or even the mob. The learning process in these communities is actually 'workplace learning', and the central issue of the process is becoming a practitioner instead of a learning individual about practice. Lave and Wenger view membership of a community of practice as participation in an activity system about which partici-

pants share understandings concerning what they are doing and what that means in their lives and for their communities (Lave and Wenger, 1991).

As seen in the previous sections, these researchers have developed the notion of legitimate peripheral participation. It is what they call a concept that obtains meaning in its multiple, theoretically generative interconnections with persons, activities, knowing, and the social world. They argue that participation in the lived-in world is a key unit of analysis in a theory of social practice, including learning. They point out that participation in communities of practice is at first legitimately peripheral but increases gradually in engagement and complexity. An issue central to their analysis is the issue of access. The 'peripheral' points out that the newcomer starts at the edge of the community and moves centripetal to eventually end up in the middle and becomes an old-timer. To become such a full member of a community requires access to a wide range of ongoing activity, old-timers, and other members of the community, as well as access to information, resources, and opportunities for participation. Limiting the centripetal movement of newcomers can drastically change the learning process as well as denying access to newcomers.

As Lave and Wenger have pointed out, organizations can be examined as communities of practice where learning processes take place. This perspective provides a sound basis for the study of organizational learning. First, however, it is necessary to acknowledge the value of organizational learning. In the following sections theories on the rationale behind organizational learning are presented. These theories are all centered on the notion that learning facilitates capabilities for creating competitive advantage.

Core competencies

The competencies theory focuses on intangible assets and knowledge-based factors. This perspective views the firm as a portfolio of core products and core competencies. According to Prahalad and Hamel (1990) competencies are the collective learning in the organization, especially how to coordinate diverse production skills and streams of technologies. Competencies are the glue that binds existing businesses together. Competence based competition requires the capacity to create new businesses by creatively combining core skills.

Resource based view

Firms' strategy research eventually always asks the same question: "How do firms create competitive advantage?" In order to answer questions on why one firm outperforms the other, it is first necessary to agree on how to look at firms and to define competitive advantage. Of course, all theories on competitive advantage have their pros and cons; therefore important is to be able to indicate why one theory will help to tackle the problem better than another.

Examining learning activities of entrepreneurs requires a certain point of view. Prescriptive strategy schools as the positioning school share the assumption that strategy is a rational process. These schools argue that measurement, analysis, calculation, and accuracy are needed to identify the strategy that fits best with the organization. Opportunities and threats play a large role in the positioning school. The planning school premises on controlled and formal strategy planning processes have no value in a dynamic and uncertain entrepreneurial environment.

Another point of view on firms and competitive advantage, which does not focus on creating competitive advantage by maintaining a strategic fit between the organization and its environment and the relative position within an industry, focuses on core competencies and firm specific assets as the fundamental determinants of firm performance. This push approach is the Resource Based View of the firm (RBV).

The underlying assumptions of this theory are that firm resources are heterogeneous and immobile. Firm resources heterogeneity means that firms may be heterogeneous within an industry with respect to the strategic resources they control. Firm resources immobility means that these resources may not be perfectly mobile across firms, and thus heterogeneity can be long lasting.

The RBV perspective as presented by Barney (1991), points out that sustained competitive advantage is a result of firm resources. The theory conceptualizes firms as bundles of resources. Resources include all assets, capabilities, organizational processes, firm attributes, information, and knowledge controlled by a firm. In other words, they form their strengths. He continues by organizing the resources into three different categories: physical capital resources, human capital resources, and organizational capital resources. The physical capital resources include the physical technology used in a firm, a firm's plant and equipment, its geographic location, and its access to raw materials. The human capital resources include the training, experience, judgment, intelligence, relationships, and insight of individual employees in a firm. The organizational capital resources include a firm's formal reporting structure, its formal and informal planning, controlling and coordinating systems, as well as informal relations among groups within a firm and between a firm and those in its environment.

Competitive advantage, Barney points out, is present when a firm is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors. Sustained competitive advantage is present when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy.

Barney distinguishes four empirical indicators of the potential of firm resources to generate sustained competitive advantage. They must be valuable, rare, inimitable, and non-substitutable. Resources are valuable when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness, thus when they exploit opportunities or neutralize threats in a firm's environment. Rare resources are resources and bundles of resources that are not simultaneously exploited by other firms. If so, it is not possible to create a competitive advantage. Firm resources are imperfectly imitable when no other firm can obtain these resources. Resources are imperfectly imitable by one or a combination of three reasons: a) the ability of a firm to obtain a resource is dependent upon unique historical conditions, b) the link between the resources possessed by a firm and a firm's sustained competitive advantage is causally ambiguous, or c) the resource generating a firm's advantage is socially complex. A non-substitutable resource must not have a strategically equivalent valuable resource. Two valuable firm resources are strategically equivalent when they each can be exploited separately to implement the same strategies.

Thus, the Resource Based View emphasizes firm-specific assets as the fundamental determinants of firm performance. The underlying assumptions are those of firm resources heterogeneity and firm resources immobility. Resources with the potential to generate sustained competitive advantage must be valuable, rare, inimitable, and non-substitutable. Criticism on the RBV argues that it has not adequately explained how and why firms can have competitive advantage in situations of rapid and unpredictable change.

Dynamic capabilities

The question the Resource Based View cannot answer is about how firms build competitive advantage in regimes of rapid and unpredictable change. Teece et al. (1997) try to solve that problem by pointing out that dynamic capabilities represent a firm's ability integrate, build and reconfigure internal and external competencies to address rapidly

changing environments. Dynamic capabilities reflect an organization's ability to achieve new and innovative forms of competitive advantage.

The Dynamic Capabilities theory as presented by Eisenhardt and Martin (2000) presents dynamic capabilities as a set of specific identifiable processes such as product development, strategic decision-making, and alliancing. As criticism towards Barney they argue that they are neither vague nor tautological and that they have significant commonalities across firms. In moderately dynamic markets, dynamic capabilities resemble the traditional conception of routines while in high-velocity markets they are simple, highly experiential and fragile processes with unpredictable outcomes. Through these organizational and strategic routines firms achieve new resource configurations as markets emerge, collide, split, evolve and die. The evolution of dynamic capabilities, they argue, is guided by learning mechanisms. The eventual competitive advantage lies however not in the dynamic capabilities themselves, but in the resource configurations the dynamic capabilities create.

The Resource Based Theory and the Dynamic Capabilities theory provide a theoretical basis for assessing organizational learning. Although these theories are not about start-ups, the perspectives on firm performance and competitive advantage used by these theories can handle the dynamic entrepreneurial environment and make the study of the subject possible.

2.3.1 *Organizational learning theory*

Among the social worlds where learning takes place, the communities of practice, are of course organizations. The notion of organizational learning has been studied for years, but despite that research, it is not (yet) possible to present one single and widely accepted theory on organizational learning. During the years many definitions of organizational learning were formed, some examples:

- The adaptation of organizational goals, attention rules and search rules as a function of its experience (Cyert and March, 1963).
- The ability to detect and correct error, the mismatch of outcome to expectation (Argyris and Schön, 1978).
- The development of insights, knowledge, and associations between past actions, the effectiveness of those actions, and future actions (Fiol and Lyles, 1985).
- The encoding of inferences from history into routines that guide behavior (Levitt and March, 1988).
- The continual expansion of the organization's capacity to create its future (Senge, 1990).

This section continues to discuss Gareth Morgan's (1997) view on organizational learning.

Organization as brains

With respect to learning and organization perception Gareth Morgan (1997) presented his image of the Organization as Brains. He asked a simple question: "What if we think about organizations as living brains?"

One of the ways of doing just that perceives the human brain as an information processing system. Several examples of this view are to conceive brains as a control system similar to a complex computer or telephone switchboard, transmitting information through electronic impulses. And, a television system with a capacity to reassemble coherent patterns and images from millions of separate pieces of data. Also an example is a sophisticated library or memory bank for data storage and retrieval. Another one, a chemical reactions system that transmits messages and initiates actions or a black box

linking stimuli and behavior. Also a linguistic system operating through a neural code that translates information into thoughts, ideas, and actions, rather like the code represented in an alphabet can be converted into prose through words and sentences. The perspective of information processing brains show that organizations are information systems, communication systems, and decision-making systems. This approach was originally known as the decision-making approach, and was developed by Herbert Simon. He developed some important notions while studying the parallels between human and organizational decision-making. The most important is that people are not perfectly rational because of their limited information processing abilities (Simon, 1955). People make decisions that are just 'satisficing' and settle for 'bounded rationality'. Some criticism on this information processing perspective is that most decision-making and information processing views have a 'left-brain bias'. They are overemphasizing logic. Another point of critique is that there is too much emphasis on the limited capacities of single individuals as a model for understanding decision making in organizations generally. In other words, bounded rationality of individuals is used to justify the limited intelligence of organizations.

Another way of perceiving organizations as brains is through the learning perspective by viewing organizations as complex learning systems. This perspective is closely related to another of Morgan's images, the organismic-metaphor, where he discussed the importance of creating organizations that are able to innovate and evolve to meet the challenges of changing environments. A major issue in this approach is the way to design complex systems that are capable of learning in a brain-like way. This question of how to create 'learning organizations' has been of special concern to the information theorists. To gain more understanding of learning by focusing on the study of information, communication, and control they came up with *cybernetics*.

The principle of cybernetics is that system behavior is guided by the avoidance of undesirable system states. Systems engage in self-regulating behavior that depends on processing, at each and every stage of the process, information exchange involving 'negative feedback'. This resolves in eliminating error and avoiding noxious states and creates desired system states.

Cybernetics forms the basis for a theory of communication and learning with four major conditions for the continuous process of information exchange between system and environment:

- Systems must have the capacity to sense, monitor, and scan significant aspects of their environment.
- They must be able to relate this information to the operating norms that guide system behavior.
- They must be able to detect significant deviations from these norms.
- They must be able to initiate corrective action when discrepancies are detected.

Fulfilling these conditions make the system operate in an intelligent, self-regulating manner. These operations are guided by operating norms and standards. The course of action is thus limited to the guidelines of the operations, which eventually causes boundaries for learning abilities. The operating norms, however, can also contain errors. Systems like the human brain are often able to detect and correct such errors and thus influence the standards that guide their detailed operations. This self-questioning ability is the core of the activities of systems that are able to learn and self-organize. The distinction between these two kinds of learning is found in the literature in many places. Senge (1990) spoke about adaptive and generative learning, Fiol and Lyles (1985) about higher and lower level learning, Levinthal and March (1993) presented first-order and second-order learning, and Argyris and Schön (1978) proposed the distinction between

single-loop and double-loop learning. These different views perhaps see the distinction from different angles, but they all agree that there is a difference between learning abilities for efficiency and learning abilities for change. This study will use the distinction proposed by Argyris and Schön (1978).

Single-loop learning

The concepts of single- and double-loop learning were first developed by Chris Argyris and Donald A. Schön in 1978. Their notion of organizational learning made room for a new area of thinking about organizations. They view organizations as learning entities. According to Argyris and Schön, organizational learning involves the detection and correction of error (Argyris and Schön, 1978). In case an error occurs and the organization is able to detect and to correct it, so that it is able to continue its present policies, the organization is engaged in single-loop learning. An example of such a system is a thermostat. It evaluates the temperature of the environment and it can undertake action when needed to maintain the present situation.

In case of single-loop learning organizations exploit previous experience by detecting causalities and extrapolate them to the future. Several skills can improve for instance problem-solving skills and even formal rules may be modified. But it is important to understand that no cognitive change is taking place within the organization. This learning mechanism only meets the need of persisting in the organization's set policies and achievement of its formulated objectives (Volberda, 1998).

Double loop learning

An important variable in the dynamics of organizational learning is the state of the environment. An analysis of the level of dynamism, complexity, and unpredictability of the environment provides an assessment of the overall environmental turbulence. In relative non-turbulent environments, single-loop learning can be of great value for organizations because of its standardization possibilities and ability to increase efficiency. When organizations find themselves in a relatively high level of environmental turbulence, they need to engage in double-loop learning to secure their continuity (Volberda, 1998). Then, fundamental norms and values are no longer appropriate. Single-loop learning and the use of standard operating procedures make it significantly difficult for organization to have rapid decision-making systems. Double-loop learning occurs when an error is detected and corrected in a way that changes an organization's underlying norms, policies, and objectives (Argyris and Schön, 1978). It refers to the organizational inquiries that resolve incompatible organizational norms by setting new priorities and weighting norms, or by restructuring the norms themselves. In this double feedback loop, not only learning occurs to increase efficiency, but learning also occurs to evaluate the very norms that define effective performance. Standard operating procedures are learned, relearned, and unlearned. Past routines are reduced or abandoned to become more receptive to new possibilities. New values and norms are required and past experience may not provide any advantage.

If organizations operate in a bureaucratic or political environment, double-loop learning is severely restrained. In those environments, people often fall back to 'defensive routines' designed to protect themselves and their colleagues. Issues and problems become obscured or buried and people become skilled in all kinds of impression management to make things look better than the really are. A major disaster that followed such a chain of problem hiding was the explosion of the U.S. space shuttle Challenger. Making it to the launch deadline in time was more important than the recognized O-ring problems (Morgan, 1997).

Deutero learning

The third learning concept Argyris and Schön introduce is that of deutero learning, which was originally put forward by Bateson (1936). In short, learning how to learn. Organizations need to know when and how to use single-loop (effectiveness) and double-loop learning (resolve conflicting norms for performance). People can learn from former experience and need to reflect on and inquire into previous contexts for learning by engaging in deutero-learning. The previous learning experiences can provide the information on how things went right or wrong, how new ideas came up or how it was possible to come up with a new strategy. This information on learning how to learn is the key to the learning organization. The results of these learning processes become encoded in individual images and maps and are reflected in organizational learning practice. It is of major importance for organizations to internalize deutero-learning by creating their own characteristic behavioral worlds. Members of these worlds tend to share characteristic languages, styles, and models of individual direct observable behavior.

Morgan (1997) points out that learning organizations must develop capacities that allow them to scan and anticipate change in the wider environment to detect significant variations. They also have to develop the ability to question, challenge, and change operating norms and assumptions. They must allow an appropriate strategic direction and pattern of organization to emerge. They also must have the capacity to evolve designs that allow them to become skilled in the art of double-loop learning, to avoid getting trapped in single-loop processes, especially those created by traditional management control systems and the defensive routines of organizational members. The most important capacity organizations need to develop is the capacity of learning how to learn.

Operational learning

The dichotomy of loop learning has implications on the learning possibilities for different organizational skills and knowledge. Single-loop learning was, as argued, of major significance in the development of efficiency of organizational routines. Organizations engaged in single loop learning become more able to set efficient standards with regard to organizational routines. In the first stages of the firm it is necessary to create stable routines fast to manage all operations. Through collective learning by training maintenance of these routines is likely to be guaranteed. Reinforcement of the daily routines is highly important to create more efficient ways of operating. The experiential learning by doing thus gets transmitted and stored in the organizational memory. Redoing is an essential part of learning. By adding new tasks and knowledge it is possible to expand existing routines. While reinforcing the valuable parts of the existing routines new areas of activity can be opened up, added and new routines and operating procedures are created.

As many members of the organization possible need to be involved in these processes to make them effective. An important principle related to this matter is that of redundancy. Nonaka (1991) explains that it is the conscious overlapping of company information, business activities, and managerial responsibilities. He points out that it encourages frequent dialogue and communication and the transfer of tacit knowledge. Because of redundancy people know what other employees can think or feel. Also, many different views on a single subject are shared. New ideas will develop and new knowledge will be created.

Strategic learning

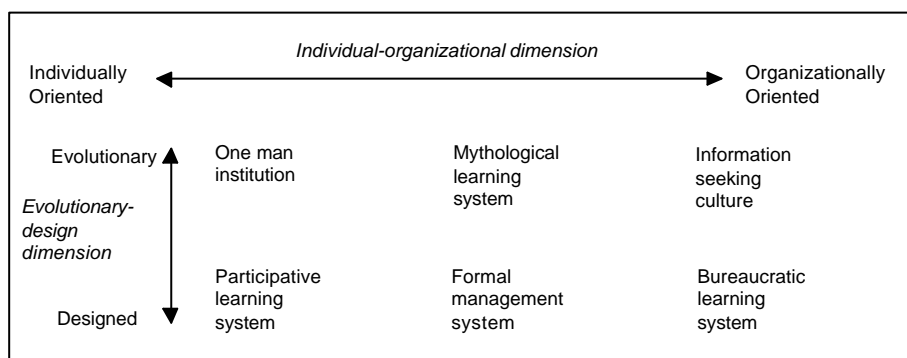
In order to let change arise, organizations need to engage in double-loop learning. As already seen, double-loop learning demands reflection on and inquiry into the existing organizational norms. The results of such an inquiry are changes in the organizational

norms and changes in the strategies associated with those norms. Then, these results must be implanted into the organizational memory. By reordering and restructuring the organizational norms, new knowledge can be obtained and new linkages between existing and new knowledge can arise.

2.3.2 Learning strategies

Individuals can perceive and process information in different ways. Organizations, according to Shrivastava (1983), can follow six different learning strategies. He characterized them by using a two dimensional framework with an individual-organization dimension and an evolutionary-design dimension. The first dimension includes on the one hand organizational learning systems that are single person dependent and on the other systems that are highly participative and depending on how the process of knowledge sharing is accomplished. The second important dimension that characterizes organizational learning systems is the process by which they come to exist in the organization. The learning systems can evolve and develop without a conscious effort to design or contrive the learning mechanisms that emerge in the organization. Or, learning systems are designed and typically arrived at by analytically determining the information requirements of the organization and developing custom tailored systems and procedures to fulfill these needs (Shrivastava, 1983).

Figure 2.5: Organizational learning strategies



Source: Shrivastava, 1983: 18

Shrivastava's view on the concept of organizational learning has a focus on interpersonal issues such as the formation of norms and communication. In situations where learning is accomplished through a system of social norms, myth, and traditions, the need for interpersonal communication skills, trust, and openness are very important (Shrivastava, 1983).

Honig and Davidsson (2000) used this typology framework to study learning strategies of nascent organizations. The framework is appropriate for mature organizations however it also provides a very useful comparative guide for somewhat similar, but in no way identical, nascent and start-up entrepreneurial learning strategies. The learning systems Shrivastava found are described hereafter.

One man institution

The first Shrivastava describes is the *one-man institution*. The principal characteristic of this strategy is that the organization has a centrally focused strategy. A single person acquires, evaluates and disseminates all relevant knowledge. That individual is responsible for all the decisions concerning both internal and external organizational issues. This learning strategy is often found within new firms, where entrepreneurs typically play a

strong leadership role. In these start-up firms, which are typically quite small, the owner/entrepreneur is in a position to share his learning activities throughout other persons in the organization. In this strategy the entrepreneur systematically does the learning while others follow. Honig and Davidsson called it the *systemic learning* category. Entrepreneurs indicated they engaged in a deliberate, systematic search for new business. The presumption of this strategy is that one can determine ex ante the most effective learning mechanism. That makes this strategy a *slow learning strategy*.

Information seeking culture

Second is the *information seeking culture* strategy and fosters a culture of inquisitiveness for information. This culture provides easy access to all information available and promotes communication. Honig and Davidsson called this the *R&D* strategy as it reflects the entrepreneurs who indicate that R&D is a major priority for their new business. Because of the organization-wide goal orientation of learning, as a primary process and objective it is a *faster learning strategy*.

Participative learning system

The third learning category described by Shrivastava is the *participative learning system* strategy. It is based on a system of flexible groups and teams, created to solve major problems with the help of a participative process. Acquisition, processing and transfer of information is done by teams and groups as well as informal inter-personal communication.

Honig and Davidsson called it the *continual organizational adjustment* strategy. According to their study this orientation is also quite common in new, particularly high tech, firms. The organizations have institutionalized the learning process and promote participatory decision-making. Entrepreneurs represented by this category indicated that they spent a considerable amount of time making their organizations function better. Because of the constant examination and evaluation it provides a *faster learning strategy*.

Formal management system

The fourth alternative is that of the *formal management system* that provides information, planning and control for organizational learning. Established and systematic procedures incorporate knowledge from individuals as well as standardized management techniques. Honig and Davidsson called this category the *incremental* strategy. Entrepreneurs indicating that business opportunities were identified through several steps over time rather than a one-time effort were associated with this strategy. It is considered a *slower learning strategy*.

Bureaucratic learning system

The fifth category described by Shrivastava is the *bureaucratic learning system* and includes a system of rules and regulations that develops over considerable time and guides exactly what kind of information goes to whom and for what purpose. The system tries to be objective and impersonal and the decision-making process has to follow detailed procedures that are featured in guidelines. Honig and Davidsson called this category the *persistent* strategy but did not examine this group in their study. Bureaucratic learning systems reflect rules and regulations that characteristically develop over considerable time in formal organizations and are therefore difficult to find among new businesses. This study therefore does not go further into this strategy.

Mythological learning system

The final strategy is that of the *mythological learning systems*, where organizational learning takes place through stories, actors or activities. Thus, myths are generated that form the basis for norms for organizational learning. Honig and Davidsson called this the *random* strategy as learning is not the result of a planning process and lacks direction and focus. It is considered slow learning strategy.

The typologies utilized suggest that formal strategies as well as the mythological and one man institution strategy will be slower, while participative and information seeking cultures will result in faster and more frequent activities (Honig & Davidsson 2000).

2.4 Conclusions

The aim of this chapter was to introduce leading theories on the domain of learning individuals and organizations and provide well-founded and justifiable typologies on learning styles of individuals as well as on learning systems of organizations. This chapter has thus presented answers to the first and second sub-questions of the research question.

The chapter started by introducing aspects and characteristics of entrepreneurship and explained how this study approaches the area of learning and entrepreneurial learning in particular. It discussed what theory could be used for the study and why new theory was needed in order to develop useful typologies for studying learning entrepreneurs. It therefore continued by providing a review of both individual and organizational learning processes. It then presented the typologies of learning individuals and organizations. With the use of these typologies, further research into the entrepreneurial learning area will be possible. This concluding section recapitulates the principal issues of the processes of learning individuals and organizations.

To understand individual learning processes it is important to acknowledge that cognitive structure of individuals derives from action, which, in turn, forms the basis for further action (Nooteboom, 2000). Experience therefore develops cognitive structure, or, individuals learn by doing. This experience takes place in certain environments. These environments contribute to individual cognitive development through adaptation and accommodation processes between the environments and individuals (Piaget, 1950). The environments are physical as well as social and the individuals are situated in these environments. Active participation of individuals in certain environments will provide them with experience. A more knowledgeable environment can help others to develop new skills and learn more (Vygotsky, 1978). Learning environments can be characterized as communities of practice. Within these communities, learning individuals move from peripheral toward full participation in the socio-cultural practices of a community (Lave and Wenger, 1999).

According to Kolb (1984) individual learning can be best conceived as a continuous process grounded in experience. He developed his experiential learning theory using the above-mentioned theoretical basis. He developed a typology of learning styles that explains how individuals learn in certain situations. The styles he distinguished are the convergent learning style, the divergent learning style, the assimilative learning style, and the accommodative learning style. This typology of learning styles is used in the empirical part of this study.

To understand why organizations learn, it is first necessary to acknowledge the value of organizational learning. Organizations need to develop a learning capability to achieve

certain resource configurations that result in competitive advantage (Eisenhardt and Martin, 2000). This learning capability and the organizational learning processes are best analyzed by using the brain metaphor (Morgan, 1997) for learning organizations. Organizations are learning entities and must be able to learn in single-loop learning processes, double-loop learning processes and deuterio learning processes (Argyris and Schön, 1978). Deuterio learning represents the capability of knowing when and how to use single- or double-loop learning.

Organizations can, just as individuals, perceive and process information in different ways. Shrivastava (1983) provided a valuable typology of six different ways, or learning strategies of organizations. This typology describes the one-man institution, the information seeking culture, the participative learning system, the formal management system, and the mythological learning system. The bureaucratic learning system is not further explained in this study. This typology is a valuable tool for studying learning organizations and is used in the empirical part of this study.

3 Small Business Development

This chapter presents an evaluation of theoretical insights on small business development as well as a description of different stages of development of small businesses, thus answering the third theoretical sub-question of the research question. The aim of this chapter is to get a better understanding of the development of entrepreneurial ventures in general and their possible learning capabilities in particular. This study focuses on the period from nascent entrepreneurship up to the point where young enterprises are about four years old. This period is divided into three main stages. The first is the nascent stage, the second is the start-up stage, and the third is the young enterprise stage. In particular attention is paid to the differences between the characteristics of the entrepreneur in the three stages and differences between the characteristics of the new venture during the period. First, however, a review is provided of the present notions concerning the entrepreneur.

3.1 Organizational growth theory

In the research area of small business development, it is possible to find many different theoretical perspectives on how firms grow. There are four streams of literature that deal with growth (Kemp and Verhoeven, 2002). First, there is the stream that concentrates on the effect of organizational growth on the economy and focuses on for instance employment. But, mainstream economics has little to tell about how and why some firms survive and grow and others do not (Bhidé, 2000). Second, there is a group with a micro economic perspective where an organization is seen as a production function. Third, growth can be seen as a business strategy. This perspective concentrates on the external determinants for growth, such as industry structure. The fourth stream of literature concentrates on explaining growth and the antecedents and consequences of organizational growth and focuses more on the internal determinants as for instance characteristics of individual entrepreneurs. These research areas have their advantages and disadvantages. Kemp and Verhoeven (2002) explain that they all have a rather static perspective. To understand growth and growth patterns, a more dynamic approach is needed, and not only theories on organizational growth, but also theories on organizational change need to be addressed. Theories that explain how and why organizations change are among others, the teleology theory, the evolutionary theory, and the lifecycle theory. These theories use a resource-based view of the firm and proved to be important in the study of Kemp and Verhoeven (2002). Teleology theory perspective sees the purpose or goal of management as the final cause for guiding movement of an entity and the evolutionary theory attributes differences in firm growth to chance (Kemp and Verhoeven, 2002; Bhidé, 2000). The stages of growth or life cycle theory, offers predictions on how firms develop as well as advice to entrepreneurs on nurturing their new ventures. This study now focuses on the life cycle perspective.

Life cycle theory

The process of growth can be described as passing through a number of predictable, successive and linear stages. Each of these stages has its distinctive characteristics and challenges to both the entrepreneur and the organization. The relevant determinants for explaining growth can be divided into internal and external determinants. Relevant factors are, amongst others, characteristics of the entrepreneur (growth motivation, education and experience), and characteristics of the organization (structure, strategy)

and environmental variables (Davidsson, 1991). Organizations have to be reactive to changes and crises that occur during the different stages. Many authors have presented their views on which and how many stages firms will go through. The theories that are most important, valuable, and applicable to small businesses are discussed here. Influential is the work of Greiner (1972) who sees growth of firms as a series of changes forced by crises. The phases he describes are growth through creativity, direction, delegation, coordination and collaboration. By surviving each crisis, the organization can move into a next phase. Greiner's model however, pays little attention to the start-up stage of organizations and is designed to analyze the development of medium-sized and large businesses.

In order to assess the development and growth of small businesses, the authors Churchill and Lewis (1983) developed a new model based on the work of Greiner. The stages they describe are existence, survival, success (disengagement and preparation for growth), takeoff, and resource maturity. This model is concentrated on the main problems small businesses face in their early existence as for instance the financial situation and product delivery.

Others who focused their attention on technology-orientated firms concluded that, in the first stage, resource acquisition and technology development are critical (Kazanjian, 1988). The four stages Kazanjian describes are conception and development, commercialization, growth, and finally stability. In the growth stage the most important problems were internal organizational issues.

Scott and Bruce (1987) developed the models of Greiner and Churchill and Lewis and came up with, again, five stages. These are respectively inception, survival, growth, expansion, and maturity. During these stages the organization evolves its organizational operations and structure. At the transition of one stage into another there is a period of crisis.

Criticism on the life cycle theory aims at the idea that entrepreneurial growth is a sequential and orderly process. Indeed, entrepreneurship is a process, but whether it is orderly remains doubtful. The logical idea of all businesses passing through the same sequential stages of growth does not explain the great variety in the manner in which firms grow. Ventures evolve in unpredictable, idiosyncratic ways (Bhidé, 2000). Also, life cycle theory is primarily focused on internal organizational characteristic. The role of the industry, technology and other situational factors are not taken into account, although these factors can have serious impact on the possibilities for growth. The life cycle theories assume that each stage has its own problems. For instance that the start-up stage is characterized only by financial problems and attracting customers. However, it is likely that those are the most important problems, but it is certain that a start-up entrepreneur will also have to learn to handle other problems.

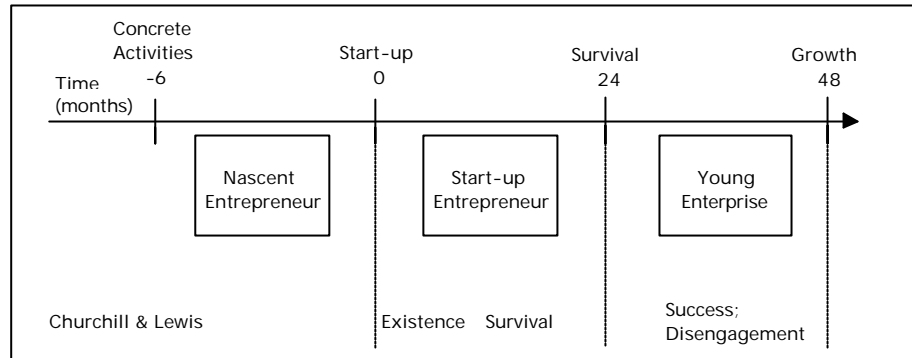
Despite all the criticism on the life cycle theory, it still offers good opportunities for analyzing the differences between learning activities of different starting organizations.

3.2 Determinants of growth

In the second part of this chapter the stages as described by Churchill and Lewis will be used to present three stages in the beginning of the life cycle with their characteristics. While studying the development of small businesses it is important to make a distinction between the entrepreneur and the organization. The two levels of analysis of this study are exactly these. Both the entrepreneur and the organization develop in their

own way, with different problems and different characteristics. Even for small firms, where the entrepreneur and the organization are more or less the same, it is important to draw the distinction. The main issues during the development of the entrepreneur are the changing demands for his dedication and attitude. The main issues during the development of the organization are the changes in organizational structure and the financial situation. On the boundary of the entrepreneur and the organization changes take place in the strategy formation process (Risseeuw, 1998).

Figure 3.1: Small Business Development



Source: Churchill and Lewis (1983), Own Research

First, it is wise to recapture the definitions used for nascent entrepreneurs, start-up entrepreneurs and young enterprises.

Nascent entrepreneurs are persons that, individually or with other persons, are engaged in the start-up of a new business. 'Engaged in' in this definition means that these persons have carried out actual actions with regard to the start-up. Persons that cherish some vague plans but have not done anything concrete will not be taken into the sample of nascent entrepreneurs. They are considered as (passive) potential entrepreneurs. People that are engaged in starting a business for their employer will also not be taken into the sample of nascent entrepreneurs.

Four criteria have been set in order to evaluate whether someone is a nascent entrepreneur or whether someone is a start-up entrepreneur. These are:

- The new business is fully financed.
- The new business is registered at the chamber of commerce.
- The products/services of the new business are ready for sale.
- The entrepreneur has already earned an income.

People that meet not more than three of these criteria are still considered as nascent entrepreneurs. People that meet all four criteria are considered as start-up entrepreneurs (Van Gelderen, 1999).

Young enterprises are organizations that have passed the point of survival, but have not yet begun their period of growth. Organizations become young enterprises around the age of two and stay so until the age of four.

3.2.1 Nascent stage

The nascent stage of entrepreneurship means that a person is engaged in the preparation of the start-up of a firm. However, 'engaged in' means that the person must have undertaken actual action with regard to the start-up such as arranging funds, registration or products. Nascent entrepreneurs can be divided into three groups. The first group is the start-up entrepreneur group. These entrepreneurs managed to meet all four criteria as presented above. The second group is contains entrepreneurs that con-

tinue to be engaged in the preparation of a start-up, thus continue being nascent entrepreneurs. The third group contains persons that stop the preparation process and therefore are no longer considered nascent entrepreneurs.

Entrepreneur

The motivation for people to start their own business is various. One important reason however is the search for freedom. The prospect of being able to work with own ideas, being financially independent or being more flexible is something many nascent entrepreneurs indicate as motivation (Stigter, 2001). Also, many nascent entrepreneurs indicate that their start-up attempt arises from a hobby that has got out of hand. They more or less slip into entrepreneurship automatically. Another group of nascent entrepreneurs indicate that their motivation is less positive. They are discontented with their current working situation.

Successful nascent entrepreneurs that start a business are often entrepreneurs that already have experience with entrepreneurship. Nascent entrepreneurs and entrepreneurs that terminate their attempt to start a business are mostly employees before their preparation period. Many nascent entrepreneurs have experience in the line of business they want to start in. Research has shown that experience can be an important factor for successfully starting a new firm (Bosma et al., 2001). The ambitions the nascent entrepreneurs have can, vary from staying independent and self-employed to hiring many employees and becoming famous.

Organization

The road to a successful start-up can be hindered by financial problems or problems in terms of a lack of good information. Also legislation and all kinds of regulations can get the eventual start-up in the way. Financing the new firm however is the main concern of nascent entrepreneurs. The investment needed for the start-up closely relates to the ambitions of the entrepreneur. Ambitions for fast-growing companies often result in higher start-up capital requirements. The need for external investors increases when the necessary start-up capital is higher. Often, family and banks are the designated external investors. Attracting external investment is the most difficult part of settling financial needs.

Good information is indispensable for successfully starting a new firm. Obtaining general information on how to start a new business or specific information on details of the line of business is crucial. The general information needed is mainly about writing a business plan and marketing knowledge. Nascent entrepreneurs find it important to know what the business environment looks like, especially information on competition. Information on legislation and regulations is also important for nascent entrepreneurs. The ambiguity of legislation can cause serious obstructions in the preparation process.

3.2.2 *Start-Up stage*

The start-ups of an organization focused on here, are usually small in terms of the number of people involved. This study does not focus on the start-up of joint ventures, mergers, spin-offs or other company initiated ventures.

Entrepreneur

The reason why people start a new business can be widely varied from need for achievement to satisfaction to becoming the best in their line of business. The most important functions of the entrepreneur are his craftsmanship and his sense of business. The focus of the entrepreneurs is on his product and on customers. The entrepre-

neur is running the business. He is responsible for everything and performs all tasks. These are attracting customers, creating a relationship with suppliers, arranging all official regulatory issues, arranging accommodation, arranging the administration and the financial situation and so on. In many cases, these tasks are new for the entrepreneur. Sometimes, the entrepreneur is assisted by his partner or another relative. If the entrepreneur has the ambition to grow his business he will get to a moment where he needs to hire real employees. He must be able to "let go" some of his tasks. This is an emotional moment because the entrepreneur was used to do everything alone and the business he created can be more or less considered as his offspring.

Organization

The number one task of a starting business is creating viability. The main concerns the organization has are to attract customers and to deliver its products and services as good as possible. Financial problems may be present in the form of lack of cash flow and covering the expenses. The organization is often not able to break even financially. The liquidity ratio of the organization can cause serious nightmares. Because of a lack of start-up capital the turnover becomes crucial.

The primary goal of the organization is plain and simple: survival. The structure of the organization is simple and flat. Most internal operations in the organization are improvised and there is no management. Again, the key factors for achieving survival are customers. The organization in this stage consists of 1 person and can grow to about 4. After a couple of months the organization becomes more stable. The relations with customers and suppliers become steadier as well as the internal and external communication patterns. In other words, organizational routines begin to develop and the organization is engaged in exploitation and single-loop learning. Often the entrepreneur is assisted by his partner or other relatives such as his children. This stabilizing effect gives the organization a family character.

Eventual further growth can follow from either a push or a pull factor. This means that the ambition of the entrepreneur can force the organization to grow or the organization can be forced to grow because of growing existent customer demand. In both cases the organizational activities will change. One important factor that will influence the organization is the growth of the number of employees.

3.2.3 *Young enterprise stage*

By the time the organization is still alive after two years, it can be said that it has passed the survival stage.

Entrepreneur

It becomes difficult for the entrepreneur to oversee all activities. The entrepreneur must develop himself as a manager. The role of the entrepreneur changes further and he must delegate a larger amount of work to other people. Bhidé (2000) states that this view is an oversimplification of the entrepreneur's role. His beliefs are that entrepreneurs must have a "hands on role" in the implementation of their long-term strategies. Entrepreneur's however, can let go and have a hands on role at the same time. Delegating more tasks, even management tasks, to other people means that the entrepreneur has excess resource capacity to pursue other opportunities (Penrose, 1959).

When the organization goes for a consolidation strategy, the entrepreneur stays the central person in the organization, but assigns important tasks to others (financial / production / marketing). The entrepreneur therefore must have the capacity to disen-

gauge himself from these important tasks. Churchill and Lewis refer to this stage as the success – disengagement stage.

In case of a growth strategy the creative ability of the entrepreneur is highly important. The strategic ability, the sensing of strengths, weaknesses, opportunities, and threats become vital skills for preparing the organization for growth. The entrepreneur must keep a long-term horizon and must rise high above the operational management in order to be able to coordinate all activities well.

Organization

The organization is now in a stage where many changes are about to happen:

- Larger scale of activities
- Changes in organizational processes
- Larger amount of employees
- More intensive contact with formal institutions (bank, suppliers, customers, local government)

The organization must find ways to cope with these changes. The organizational structure must be built stronger and the division of tasks needs to be formalized. The organization finds itself on a junction between either consolidation, the continuance of current activities, or growth, strategic plans for expansion.

In case of consolidation strategy the organization aims at optimizing current operations in order to sustain success and a healthy relationship between revenue and expenses. The firm stays small, which causes ambitious employees to get stuck. However, during this stage the organization is relatively stable. It can hold this position for a long time, at least for as long as the environment and the market the organization is in stays relatively stable. Simple planning and budgets are enough to control the situation. A central notion in this stage is single-loop learning. The organization is exploiting its current successful operations by increasing operational efficiency.

When the organization chooses to go for a growth strategy it needs to hire and keep promising managers. The organization will lose its personal touch or family dominance. Because of a larger scale of activities, the organizational processes could also be changed drastically (perhaps through new technologies).

An important ingredient for fostering growth is cash. The organization must stay profitable and might need to attract outside investors. It is important that all activities are coordinated and the structure therefore needs to stay centralized. This stage is in fact preparing the entire organization for the true expansion, all organizational factors need to be aligned and prepared for growth.

3.3 Learning capability development

According to Hendry, Arthur and Jones (1995) the opportunities of smaller firms for individual learning lay in the related factors of size, growth, market uncertainty, and the consequent requirement for flexibility.

Because of the smaller size of start-up and nascent firms, the individuals often have to perform a wider range of functional tasks. Especially in growth stages individuals in small firms might be confronted with a wider range of situations and might respond to a wider variety of people than they might encounter at similar levels of experience, age and career in larger firms. 'Growing up' for smaller firms simply means getting more tasks. This requires for individuals that are working in start-ups to widen their range of skills, enhance their knowledge in a faster pace, extend their competence over a wider performance domain, and to take larger responsibility. Also, market uncertainty and

niche operations require entrepreneurs to acquire more specialized skills and knowledge. New ventures want to keep their definitions of tasks and skills flexible in order to be able to react to change. The combination of different tasks and skills in new ventures is often unusual and therefore flexible. Hendry et al. (1995) continue to argue that in these circumstances, real day-to-day issues form the basis of learning. The authors point out that the training and specification of occupational skills is likely to be dynamic. That dynamism makes standards and vocational qualifications of limited relevance. A key process in smaller firms, they continue, is experiential learning.

Smaller firms do not only have advantages in learning possibilities, they also have disadvantages. These disadvantages relate to the scale of the small firm and its related dependency on outside forces. The study of Hendry et al. (1995) names affordability, ownership and control, poaching and management attitudes, limited horizons, pressures of growth, and size as disadvantages. Affordability was the most striking constraint and concerns training budgets. Learning cannot flourish without any formal training budgets. The ownership and control disadvantage measured the control outside owners had on the learning possibilities inside the organization. Short time cash was in their views more important than long time investment in people. The fact that many owner-managers have limited ambitions for growth and have limited horizons, make the need for formal training beyond the basic essentials little. They view skill development and training for sustaining strategy as something different from contributing to strategic opportunities. When there is no ambition, no strategic opportunities are needed. The poaching fear mostly came from owner-managers because they were afraid they couldn't make ends meet anyway, so if people were engaged in training and left, they would lose even more money. Fast growing firms can also come across learning problems. Because of increasing demands and pressure for production their systems of planned training can become diluted. Finally, the size can be a great obstacle itself. Learning individuals in smaller firms tend to move elsewhere if there are no possibilities, as for instance promotion opportunities.

The study of Hendry et al. concluded that smaller firms' interest in employee learning tended to be informal, and guided by the nature of workplace relationships. They propose three ways to take the learning opportunities. The first is through the demonstration of initiative, the second through interpersonal learning, and the third through learning in teams.

3.4 Conclusions

This chapter has provided a theoretical review of the development of small businesses and the change of the role of entrepreneurs. Developing a business does not necessarily mean that the venture actually grows in number of employees. Entrepreneurs sometimes even do not want their ventures to grow. Developing can also mean that individual and organizational capabilities evolve and develop in a "single-loop learning way". The individual and the organization then will learn how to exploit their capabilities as efficient as possible.

The evaluation of growth theories has shown that the life-cycle theories share their perceptions on the stages of development. They all pass through more or less similar stages such as start-up, survival, growth, and maturity. Although there is an ongoing debate on the possibilities of the application of the life-cycle theories, there remains no doubt that there are difference between the start and the growth phase of a new business.

The research of Churchill and Lewis (1983) has shown that a very important factor in the early stage is the owner's talent, ability and willingness in order to let his new venture come about. The entrepreneur's capabilities will determine the organizations ability to develop. In the nascent stage, the most important assets an entrepreneur needs to acquire are funds and good information. In the start-up phase the entrepreneur has full responsibility for all activities. He must develop his entrepreneurial skills really well during this period. The organization needs to fight for viability and survival. In the young enterprise phase (growth phase) communication becomes more formal. In order to grow, funds are needed and the entrepreneur must change into a managerial role. He must be able to let go of tasks and focus on opportunities, strategic issues, and exploration.

4 Conceptual Framework

This chapter presents the operationalization of the two typologies of individual and organizational learning activities. The individual learning processes are to be studied empirically by operationalizing the typology of four learning types as described by Kolb (1984), the *Converger*, the *Diverger*, the *Assimilator*, and the *Accommodator*. The organizational learning processes are to be studied empirically by operationalizing the typology of learning strategies as presented by Shrivastava (1983), the One-man institution, the Information seeking culture, the Participative learning system, the Formal management system, the bureaucratic learning system, and the Mythological learning system.

First, it is necessary to translate the empirical research questions into hypotheses.

How do entrepreneurs and their new ventures learn, and how are they involved in dynamic learning processes ?
What typologies of learning entrepreneurs and organizations can be theoretically distinguished and empirically found in the Dutch entrepreneurial landscape ?

The first research question was dealt with in the previous chapters. Now, an answer must be found on the question whether the typologies can be found in the Dutch entrepreneurial landscape. The sub-questions from the empirical part of the research need to be answered:

- 1 Can the typology of learning entrepreneurs be found empirically in the Dutch entrepreneurial landscape ?
- 2 Can the typology of learning organizations be found empirically in the Dutch entrepreneurial landscape ?
- 3 Is it possible to find differences between the different groups ?

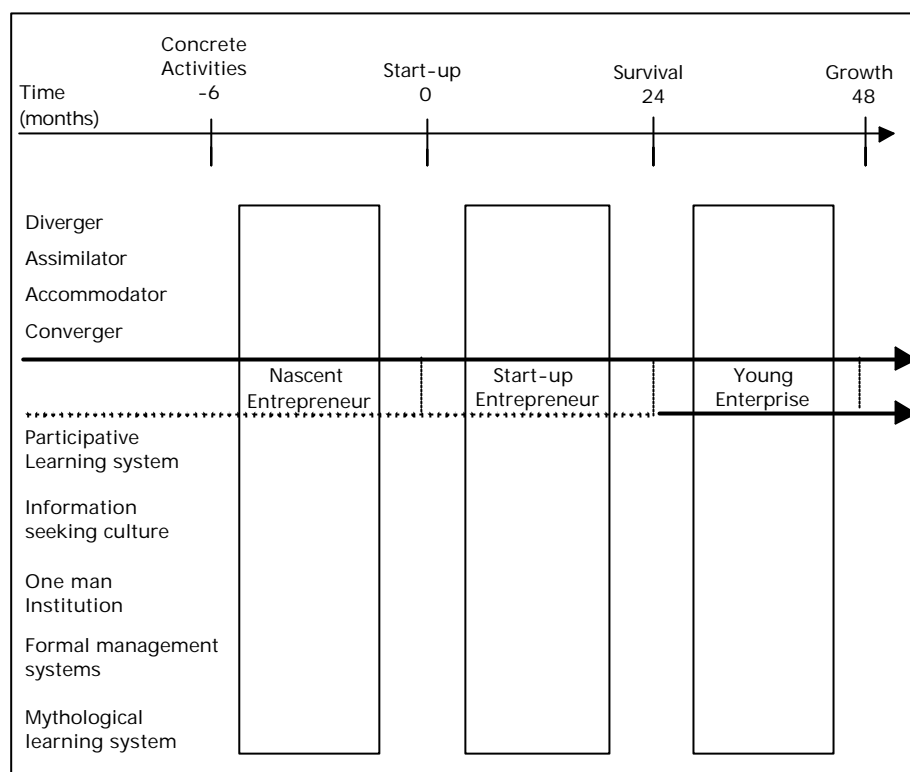
To be able to answer these questions, several hypotheses are constructed in the following sections.

Operationalization

This research uses statistical data that was gathered for another reason than this research. It is therefore necessary to construct a linkage between (and translation of) the theory and the available data. This operationalization of the two typologies is done by closely examining the surveys that were used by EIM during their data collection. This study aimed at finding answers to survey questions that provide the information needed to study the typologies in the data panels.

Figure 4.1 combines the main theories into a conceptual framework; this figure makes it possible to visualize the present study. The two typologies of (i) learning entrepreneurs and (ii) their organizations are studied during their evolution and development. To account for the dynamic perspective, both the entrepreneurs and his organization should ideally be analyzed at the three moments in time.

Figure 4.1: Conceptual Framework



Source: Own Research

4.1 Entrepreneurial learning styles

The present study aims at demonstrating that the individual learning styles typology as presented by Kolb (1984) can be used as a theoretical tool to analyze the learning activities of entrepreneurs. In fact, if the empirical analysis shows that the hypothesized differences do exist among these learning styles, the entrepreneurs can be divided into accommodator-entrepreneurs, or diverger-entrepreneurs and so on. But, what are these types of entrepreneurs like? This section explains some of the essential differences, a priori that is.

Diverger

Based on Kolb's theory, the diverger-entrepreneur would emphasize concrete experience and reflective observation. This type can therefore also be described as the reflector. This type of entrepreneur would be creative and innovative, he would like to work with people, and is a social person. Diverger-entrepreneurs are likely to be found in organizational development and cultural areas.

The Diverger is operationalized by using the information that:

- He works with people, he is social and personal
- He is inventive and innovative and able to develop new ideas

The questions in the surveys used to be able to trace the Diverger in the data were:

- His educational background in personal and social care
- His motivation for finding opportunities in the market

Converger

Converger-entrepreneurs combine abstract conceptualization and active experimentation according to Kolb (1984). This mix reflects in particularly efficient and practical people. Entrepreneurs of this type are likely to be involved in technical areas such as engineering.

The Converger is operationalized by using the information that:

- He is practical and works on technical tasks and problems
- He is pragmatic and experiments on practical applications

The questions in the surveys used to be able to trace the Converger in the data were:

- His technical educational background
- Keeping up to date with technological developments

Accommodator

The accommodator-entrepreneur mixes active experimentation and concrete experience. This makes him strong in making things happen, carrying out plans and tasks and getting involved in new experiences. This type takes risks, is flexible and able to accommodate to new situations. This type of entrepreneur is also focused on other people's ideas.

The Accommodator is operationalized by using the information that:

- He is a risk taker
- He sees chances, wants new things and is flexible
- He is focused on the ideas of other people

The questions in the surveys used to be able to trace the Accommodator in the data were:

- His willingness to take risks
- His open-mindedness for new developments
- His participation in relevant networks

Assimilator

Assimilator-entrepreneurs combine abstract conceptualization and reflective observation. This mix is the reason why they can also be characterized as thinkers. They are strong in analyzing, theorizing, and conceptualizing. As entrepreneurs they are likely to carefully plan their ventures and search for information. They will not decide instantly but prefer to think first.

The Assimilator is operationalized by using the information that:

- He is a planner and needs to think and develop concepts
- He is an information collector and is critical

The questions in the surveys used to be able to trace the Assimilator in the data were:

- His preparation time between his entrepreneurship-decision and start-up
- The number of sources he used to retrieve information
- He consults his business plan regularly

Hypotheses

The hypotheses that derive from the above operationalization are the following:

- 1a The assimilator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1b The diverger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1c The accommodator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1d The converger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.

These hypotheses will be tested in the empirical part of this research in chapter 6. In Table 4.1, an overview is presented on the four different learning styles, showing among other things their qualities, strengths, and weaknesses.

Table 4.2: The individual learning styles

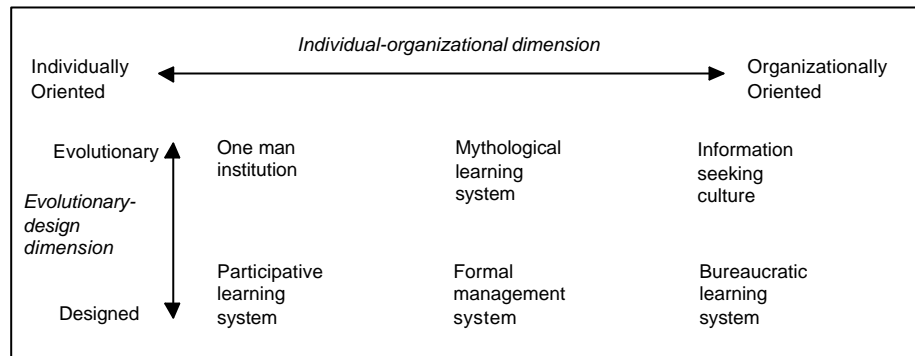
	Accommodator	Diverger	Assimilator	Converger
	<i>Dynamic</i>	<i>Innovative</i>	<i>Analytic</i>	<i>Common sense</i>
Qualities:	Chooses facts over theory; Adapts to change; Impatient; Uses others for ideas; Variety; Flexibility; Intuitive	Inventive; Imaginative; Empathetic; Creative; Emotional; Social; Personally involved	Chooses concepts over people; Theory over facts; Critical; Collecting information	Wants to be efficient; Chooses things over people; Practical; Places question marks
Strengths:	Doing things; Leader; Risk taking;	Idea generating; Working with people; Identifying problems	Modeling; Planning; Problem defining; Theory developing	Problem solver; Experimenting with theory on practice; Decision making
Weaknesses:	Does meaningless activities; Impatient	Irresolute	No practical application; Much criticism	Solves the wrong problem;
Likes:	One-on-one relations	Personal concernment	Expert accompaniment	Fun; Practical accompaniment
Goals:	To make things happen	To be involved in important issues	Confirmation; Recognition of intellectual capacity	Practical application
Motivation:	Results	Inquisitiveness; Passion	Expertness; Knowledge	Problems
Learning by:	Muddling through; Doing	Listening; Taking in; Discussion	Thinking about ideas;	Theory testing; Questioning; Doing
Teaching through:	Encouraging	Motivating search for causes/reasons of own action	Information sharing; Narrating	Asking; Facilitating

Source: Van Aggelen and Van de Stolpe, 2001

4.2 Organizational learning strategies

Shrivastava (1983) characterized six different learning strategies using two dimensions: the individual-organization dimension and the evolutionary-design dimension (figure 4.3). This section focuses on these strategies. An attempt is made to categorize the strategies into two groups, the slower learning styles and the faster learning styles. This technique is also used in the study by Honig and Davidsson (2000).

Figure 4.3: Organizational learning strategies



Source: Shrivastava (1983)

One-man institution

The principal characteristic of this typology framework is that the organization has a centrally focused strategy. A single person acquires, evaluates and disseminates all relevant knowledge. That single individual is responsible for all the decisions concerning both internal and external organizational issues. This learning strategy is often found within new firms, where entrepreneurs typically play a strong leadership role. In these start-up firms, which are typically quite small, the owner/entrepreneur is in a position to share his learning activities throughout the organization. In this strategy the entrepreneur systematically does the learning while others follow. Honig and Davidsson called it the *systemic* learning category. Entrepreneurs indicated they engaged in a deliberate, systematic search for new business. The presumption of this strategy is that one can determine *ex ante* the most effective learning mechanism, categorizing it as a *slow learning strategy*.

Information seeking culture

This strategy fosters a culture of inquisitiveness for information. It provides easy access to all information available and promotes communication. Honig and Davidsson called this the *R&D* strategy as it reflects the entrepreneurs who indicate that R&D is a major priority for their new business. Because of the organization-wide goal orientation of learning, as a primary process and objective it is classified as a *faster learning strategy*.

Participative learning system

This strategy is based on a system of flexible groups and teams, created to solve major problems with the help of a participative process. Acquisition, processing and transfer of information is done by teams and groups as well as informal inter-personal communication. Honig and Davidsson called it the *continual organizational adjustment* strategy. According to their study this orientation is also quite common in new, particularly high-tech, firms. The organizations have institutionalized the learning process and promote participatory decision-making. Entrepreneurs represented by this category indicate

that they spent a considerable amount of time making their organizations function better. Because of the constant examination and evaluation it provides a *faster learning strategy*.

Formal management system

This strategy consists of a system that provides information, planning, and control for organizational learning. Established and systematic procedures incorporate knowledge from individuals as well as standardized management techniques. Honig and Davidsson called this category the *incremental* strategy. Entrepreneurs indicating that business opportunities were identified through several steps over time rather than a one-time effort were associated with this strategy. It is considered a *slower learning strategy*.

Mythological learning system

In this strategy organizational learning takes place through stories, actors or activities. Thus, myths are generated that form the basis for norms for organizational learning. Honig and Davidsson called this the *random* strategy as learning is not the result of a planning process and lacks direction and focus. It is considered *slower learning strategy*.

Slower and faster learning strategies

Eventually, these learning styles can thus be characterized into two categories, the slower learning strategies and the faster learning strategies (Honig & Davidsson 2000). The slower learning strategies are the one-man institution, the mythological learning system, and the formal management system. The variables used for the empirical study are: the wish to stay own boss (motivation), the preparation length between decision and start-up, and the number of times the business plan was consulted. The faster learning strategies are the information seeking culture and the participative learning system. The variables used for the empirical study are that products are based on a new application, to keep up with technological knowledge, being engaged in R&D, and participation in networks.

Hypotheses

The hypotheses that derive from the above operationalization are the following:

- 2a The slower learning strategies (the one-man institution type, the mythological learning system type, and the formal management systems type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.
- 2b The faster learning strategies (the information seeking culture type and the participative learning system type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.

These hypotheses are tested in the empirical part of this research.

4.3 Learning style characteristics

Based upon theory it is clear that there are differences between the types within typologies on learning entrepreneurs and on their organizations. It might however turn out to be difficult to study these differences when there are no obvious results on the first hypotheses concerning the empirical existence of the typologies. In order to show differences, it is thus first necessary to identify the types in the first place. Then, an at-

tempt is made to shed some light on the characteristics of these types in the data-panels.

Hypotheses

To be able to answer the last question of the sub-questions the following hypotheses were constructed:

- 3a Differences can be seen between the types of the typology of learning entrepreneurs in the Dutch entrepreneurial landscape in different stages.
- 3b Differences can be seen between two categories of types of the typology of learning organizations in the Dutch entrepreneurial landscape in different stages.

In the following chapters these hypotheses will be tested and results on those tests will be presented.

4.4 Conclusions

This chapter provided a presentation of the operationalization of the two typologies of individual and organizational learning activities. The individual learning processes are operationalized by the typology of four learning types as described by Kolb (1984), the *Converger*, the *Diverger*, the *Assimilator*, and the *Accommodator*. The organizational learning processes are operationalized by the typology of learning strategies as presented by Shrivastava (1983), the One-man institution, the Information seeking culture, the Participative learning system, the Formal management system, the bureaucratic learning system, and the Mythological learning system. These types have been subdivided into two categories, the slower learning strategies and the faster learning strategies. This chapter has also provided hypotheses to be tested in the empirical research part of the present study. These hypotheses are concerned with the identification of the typologies in the data as well as possible differences between the types in the typologies.

5 Methodology

This chapter briefly sets out the choice of the proposed research design. The methods of data collection and the data will be described as well as the research methods. Finally, a conclusion is presented on the advantages and limitations of the methods used.

5.1 Research design

The design of this research consists of two parts. It is made using both desk research as well as empirical quantitative research. The first part, the desk research, showed a thorough review of the leading literature and theories resulting in a conceptual framework of learning activities of entrepreneurs and their new ventures. This framework is used in the second part, the secondary empirical quantitative research.

In order to understand the research design it is first wise to repeat the research objective, the research questions and the hypotheses. It then becomes possible to explain the decisions on the technical design of this research.

5.1.1 *Research objective*

The objective of this study is to present valuable insights on the concept of learning relevant for entrepreneurs and their new ventures both theoretically and empirically. A thorough review of the leading literature and theories results in the presentation of a conceptual framework of learning activities of entrepreneurs and their new ventures. This framework is used in order to statistically analyze a sample of Dutch entrepreneurs. For this analysis several data panels are used. The empirical part of this research results in concrete findings on the important aspects of entrepreneurial learning activities in the Dutch entrepreneurial landscape.

5.1.2 *Research questions*

The guiding research questions of this study are:

How do entrepreneurs and their new ventures learn, and how are they involved in dynamic learning processes ?
What typologies of learning entrepreneurs and organizations can be theoretically distinguished and empirically found in the Dutch entrepreneurial landscape ?

To answer these questions the following sub-questions need to be answered:

Theoretical Part:

- 1 What are the key individual and organizational learning processes that can be distinguished from literature ?
- 2 How do small businesses develop over time ?
- 3 What typologies of learning entrepreneurs and organizations can be theoretically distinguished ?

Empirical Part:

- 1 Can the typology of learning entrepreneurs be found empirically in the Dutch entrepreneurial landscape ?
- 2 Can the typology of learning organizations be found empirically in the Dutch entrepreneurial landscape ?
- 3 Is it possible to find differences between the different groups ?

5.1.3 *Research strategy*

The first part of this study consisted of a theoretical review of international articles, papers, and books in order to map the important learning theories and eventually develop a conceptual framework on typologies of learning entrepreneurs and organizations. The research strategy can thus be characterized as desk research (Verschuren and Doorewaard 2000).

The second part is a statistical analysis of data on over 3,500 Dutch entrepreneurs. EIM collected this data by using surveys.

5.1.4 *Hypotheses*

To answer the first and second sub-question of the empirical part, the following hypotheses were constructed:

Learning Entrepreneurs:

- 1a The assimilator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1b The diverger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1c The accommodator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1d The converger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.

Learning Organizations:

- 2a The slower learning strategies (the one-man institution type, the mythological learning system type, and the formal management systems type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.
- 2b The faster learning strategies (the information seeking culture type and the participative learning system type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.

The third sub-question is about differences between the groups within a typology. The following two hypotheses were constructed to be able to answer this sub-question:

3a Differences can be seen between the types of the typology of learning entrepreneurs in the Dutch entrepreneurial landscape in different stages.

3b Differences can be seen between two categories of types of the typology of learning organizations in the Dutch entrepreneurial landscape in different stages.

5.2 Data collection

Summarizing the important steps of this study makes clear that this study explores a broad part of the Dutch entrepreneurial landscape. Therefore the choice is made for in-breadth rather than in-depth research. In order to be able to make justifiable claims a secondary empirical quantitative research design is necessary. Because the data was not specifically gathered for this research, the research is secondary.

5.2.1 *Research material*

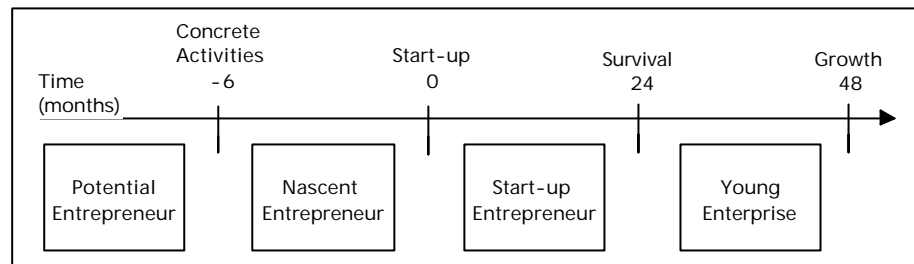
The data required for the empirical research needs to refer to the objects of the research. In this research the objects are the entrepreneur and his organization. Further, it needs to be examined what kind of information the sources must provide. A division is made into two categories: knowledge and data. The first provides insights and theories developed by others about the underlying issue. The second provides given facts and results in quantitative or qualitative research. The theoretical part of this research emphasized the first category. For this part the types of sources used were media, documents and literature.

The empirical part of this research emphasizes on the second type of information. The sources must be reliable, valuable and it must be possible to make a generalization from the sources. In the empirical part of this research media, and documents are used as sources. The types of sources used are media, documents and literature. To acquire current material media sources are of great importance. They are characterized by high information compactness and are destined for a wide public and therefore relatively easy to consult. Media sources can be consulted at great speed. For this research also several Internet sites were consulted.

Another category of sources is documents. These sources are characterized by the fact that they have a certain destination. Reports and records from EZ and EIM were used mainly through the use of their websites. The use of literature is of major importance for the first part of this research. Scientific books, essays and papers are discussed and used to enhance the knowledge about the present issue. All literature was found in databases, for instance Proquest, Lexis Nexis and large business journal databases. Also the University Library database was used to find literature. The methods for unlocking the information from the sources were the use of search engines and a content analysis:

The statistical data used in the empirical part of this study is gathered, maintained and financed by EIM Business and Policy Research in Zoetermeer. The empirical research is done on almost 2,000 Dutch entrepreneurs. As shown earlier, this study is focusing on nascent entrepreneurs, start-up entrepreneurs and young enterprises.

Figure 5.1: Nascent-, Start-up Entrepreneurs and Young Enterprises



Source: Van Gelderen, 1999, Own research

All information on these entrepreneurs is gathered in three panel datasets, the nascent entrepreneur panel, the start-up entrepreneur panel, and the young enterprise panel. This study uses information only from the year 1998, making this the key year. For this year there is detailed information on 500 nascent entrepreneurs, 500 start-up entrepreneurs, and 800 young enterprise owners who started their business in 1994. The particular advantage of this research design is that it is possible to gain insight in the dynamic learning developments of entrepreneurs and their organizations in their start-up phase.

5.2.2 The data panels

The first panel with business start-ups was created in the summer of 1994. Almost 2.000 entrepreneurs that started a new business that year were tracked. With this panel research EIM tries to gain insight in the development of businesses since their start-up and in possible hampering or stimulating factors by following and gathering data on business start-ups for several years after their start-up. Today, this panel has developed into the Young Enterprises Panel and consists of 1938 values.

The second panel contains data on business start-ups in the year 1998 and 1999 consists of 1127 values.

During the autumn nights of September and October 1998 around 50.000 households in the Netherlands were phoned to create the nascent entrepreneurs panel. More than 20.000 of these calls delivered useful responses from people on questions concerning the possible start-up of a new business. From this group of responses a group of nascent entrepreneurs was formed consisting of 569 values (Van Gelderen, 1999).

5.3 Research methods

The quantitative research in the EIM data-panels is characterized by two different parts. The first part consists of a factor analysis to test the hypotheses concerning the learning entrepreneurs and new ventures. The second part consists of an analysis using cross tabs to test the hypotheses concerning the differences between the groups within a typology. These statistical operations are all performed with the use of the SPSS program functions.

Factor Analysis

To be able to do an analysis where many different variables are studied at the same time, special statistical methods are needed. Various goals can be pursued for this kind of analysis. The goal for this research is to reduce the data in the data-panel analysis by

combining variables into factors. This multivariate research can be done using a factor analysis. The factor analysis used in this research is the principal component analysis.

Cross Tabs

The most common statistical test for the significance of the relationship between categorical variables is the Pearson χ^2 (Chi-Square) test. The test can compute expected frequencies in a two-way table. For example, suppose that 20 males and 20 females were to choose between two brands of soda pop (brands A and B). If there were no relationship between preference and gender, then we would expect about an equal number of choices of brand A and brand B for each sex. The Chi-square test becomes increasingly significant as the numbers deviate further from this expected pattern; that is, the more this pattern of choices for males and females differs.

The value of the Chi-square and its significance level depend on the overall number of observations and the number of cells in the table. Relatively small deviations of the relative frequencies across cells from the expected pattern will prove significant if the number of observations is large (www.statsoft.com). In this research, the number of observations is clearly large.

5.4 Discussion and conclusions

Using data that was gathered, maintained, and financed by EIM Business and Policy Research has various advantages. Collecting reliable data on several thousands entrepreneurs is an extremely difficult task. By using data that was already at hand, the speed of gathering the research material was tremendously increased. At the same time the reliability of the data was guaranteed by EIM Business and Policy Research, which make the data particularly valuable.

A difficult part in this study was to match the data from the panel datasets and the variables that formed the conceptual framework. The data set was not specifically focused on learning activities and psychological determinants of the entrepreneurs. Therefore some of the variables used in the conceptual framework were combined to be able to match the data and the framework. Gathering data through surveys has the consequence of not being able to view facial expressions, gestures, or attitudes. Moreover it is not possible to obtain explanations for certain answers.

Under the given circumstances, the proposed research design fits best to be able to deal with the research question.

6 Empirical Context and Analysis

It is clear that theory and practice are two different areas of expertise. The chapters two, three and four have dealt with theory and presented a conceptual framework of learning entrepreneurs and their new ventures. Chapter five has provided methodology that is used in this research. This chapter will focus on the practical side of this research, the empirical part. An empirical analysis is performed on the theoretical assumptions on learning entrepreneurs as well as the assumptions on learning organizations. In this analysis tests are done to examine whether the assumptions are in accordance with the actual facts. It tries to do so by using the different data panels on nascent entrepreneurs, start-up entrepreneurs, and young enterprises. The techniques used for the analysis are factor analysis and cross tabs. The analysis is presented along with the results and conclusions on the learning entrepreneurs and the learning organizations.

6.1 Entrepreneurial learning styles

The first part of the empirical analysis focuses on the individual learning styles of the entrepreneur. In this part the application of Kolb's typology for the study of entrepreneurial learning is reviewed by testing the first hypotheses. The analysis and results are presented here along with conclusions.

6.1.1 Analysis

The first hypotheses are tested by performing factor analyses. A total of 10 variables was selected that can be characterized as characteristic towards the four learning types. This selection is based on theoretical grounds as presented in chapter two. The selected variables are set out in table 6.1, according to the learning types they are associated with (*a priori*). Factor analysis attempts to identify underlying summarizing variables, or factors, that explain the pattern of correlations within the set of observed variables. The variables enter the analysis without imposing a relationship between the variables. Testing the hypotheses thus means: investigating whether the summarizing factors reflect the learning types.

The hypotheses that are tested are:

- 1a The assimilator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1b The diverger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1c The accommodator type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.
- 1d The converger type of the theoretical typology of learning entrepreneurs is present in the Dutch entrepreneurial landscape in different stages.

Table 6.1: Proxies entrepreneurial learning types; variables included in factor analysis

Accommodator	Diverger	Assimilator	Converger
Willingness to take risk	Education: personal and social care	Preparation length between decision and start-up	Keep up to date with technological developments
Open minded for new developments	Motivation 'market opportunity'	Number of sources used to retrieve information	Education: technical
Participation in networks		Number of times business plan consulted	

Source: Own research

6.1.2 Results

Using the start-up panel of 1998 and 1999, three summarizing factors were found to the set of variables in table 6.1. Two of those factors can, by investigating the variables that are of significant value to each factor, be characterized as a measure of the accommodator type and as a measure of the assimilator type. The first factor shows the accommodator. The selected variables appear to be significant at the .5 level. It also appears that the accommodator has a tendency towards the market opportunity motivation as well as the wish to keep up to date with technological developments. The second factor shows the assimilator type. The selected variables appear to be significant at the .5 level. The third factor can be characterized as a scale with on the one end the diverger properties and on the other the converger properties. By observing the signs of the variables' factor values it can be concluded that the types are opposite to each other and they are significant at the .3 level. This result is in accordance with Kolb's theory (1984) as presented in chapter two. However, the findings show no evidence of a negative correlation between assimilator and accommodator entrepreneurs. The rotated components for the 1998/1999 sample are set out in table 6.2.

Table 6.2: Rotated Component Matrix 1998 / 1999 sample

	Component		
	1	2	3
Willingness to take risks	.649		
Open minded for new developments	.807		
Participation in networks	.636		
Education: personal and social care			.665
Motivation: 'Market opportunity'	.305		.437
Keep up to date with technological developments	.637		-.342
Education: technical			-.741
Preparation length between decision and startup		.656	
Number of sources used to retrieve information		.680	
Number of times business plan consulted		.689	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

Source: own research

The analysis of the young enterprises data panel of 1994 was done similarly. The same variables were selected that are characteristic towards the four learning types (table 6.1). The factor analysis showed similar results. Also, three summarizing factors were found to the set of variables. Again, two of those factors can be characterized as the accommodator type and as the assimilator type. The first factor shows the accommodator. The selected variables appear to be significant at the .5 level. It also appears that the accommodator has a tendency towards the wish to keep up to date with technological developments. The second factor shows the assimilator type. The selected variables appear to be significant at the .5 level, however, the variable on the preparation length did not show a significant result. The third factor can, again, be characterized as a scale-group containing both the diverger as well as the converger. By observing the signs of the variables' factor values it can be concluded that the types are opposite to each other. The rotated components for the 1994 sample are set out in table 6.3

Table 6.3: Rotated Component Matrix 1994 sample

	Component		
	1	2	3
Willingness to take risks	.628		
Open minded for new developments	.799		
Participation in networks	.612		
Education: personal and social care			.614
Motivation: 'market opportunity'			.535
Keep up to date with technological developments	.562		-.309
Education: technical			-.693
Preparation length between decision and startup			
Number of sources used to retrieve information		.845	
Number of times business plan consulted		.821	

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 5 iterations.

Source: own research

The analysis of the nascent entrepreneurs panel made it clear that it was not possible to draw any conclusions on learning activities regarding Kolb's (1984) typology. The data in this panel turned out to be not sufficient for this analysis. Therefore, this data panel is not further consulted in the empirical part of this research.

6.1.3 Entrepreneurial learning style conclusions

Regarding the first hypotheses it is clear that the four types as described by Kolb can be found empirically and therefore are present in the Dutch entrepreneurial landscape. The assimilator, the diverger, the converger, and the accommodator types of learning can be attributed to entrepreneurs. The findings of these factor analyses encourage the use of Kolb's typology for this kind of research. The results of this part of the empirical analysis make thus clear that the typology is a useful tool for further studying entrepreneurial learning.

6.2 Organizational learning strategies

This part of the empirical analysis focuses on organizational learning strategies. In this part the application of Shrivastava's learning strategy typology for the study of entrepreneurial organizations is reviewed by testing the second hypotheses. The analysis and results on learning organizations are presented in this section along with conclusions.

6.2.1 Analysis

The second group of hypotheses is tested by performing, again, factor analyses. Shrivastava's typology was subdivided into two groups, the slower and faster learning organizations. The empirical analysis is focused on these two groups. A total of 7 variables was selected that can be attributed as characteristic to the two groups of strategies. This selection is based on theoretical grounds as presented in chapter two. The selected variables are set out in table 6.4, according to the two learning groups they are associated with (*a priori*). Testing these hypotheses thus means: investigating whether the summarizing factors reflect the learning systems.

The hypotheses that are tested are:

- 2a The slower learning strategies (the one-man institution type, the mythological learning system type, and the formal management systems type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.
- 2b The faster learning strategies (the information seeking culture type and the participative learning system type of the theoretical typology of learning organizations) can be found empirically in the Dutch entrepreneurial landscape in different stages.

Table 6.4: Proxies organizational learning types; variables included in factor analysis

Slower learning strategy	Faster learning strategy
Wish to stay own boss (motivation)	Products based on new applications
Preparation length between decision and start-up	Keep up with technological knowledge
Number of times business plan consulted	Engaged in R&D
	Participation in networks

Source: Own research

6.2.2 Results on learning organizations

With regard to the typology of learning organizations evidence was found with respect to the two learning categories.

Using the start-up panel of 1998 / 1999, two summarizing factors were found to the set of variables in table 6.4. Those two groups can, by investigating the variables that are of significant value to each factor, be characterized as a measure of the slower learning category and as the faster learning category. The first factor shows the faster learning organization and the second factor shows the slower learning organization. The factors appear to be significant at the .4 level. The results clearly show that these variables indicate, according to Shrivastava's theory, to have impact on the learning

speed of organizations. The rotated components for the 1998/1999 sample are set out in table 6.5.

Table 6.5: Rotated Component Matrix 1998 / 1999 sample

	Component	
	1	2
Products based on new applications	.737	
Keep up to date with technological developments	.733	
Engaged in R&D	.418	
Participation in networks	.603	
Wish to stay own boss		.574
Preparation length between decision and startup		.721
Number of times business plan consulted		.599

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Source: own research

Using the young enterprises panel of 1994, again two summarizing factors were found to the set of variables in table 6.4. Those two groups can, by investigating the variables that are of significant value to each factor, be characterized as a measure of the slower learning category and as the faster learning category. The first factor shows the faster learning organization and the second factor shows the slower learning organization. The factors appear to be significant at the .5 level. The results clearly show that these variables indicate, according to Shrivastava's theory, to have impact on the learning speed of organizations. The rotated components for the 1994 sample are set out in table 6.6.

Table 6.6: Rotated Component Matrix 1994 sample

	Component	
	1	2
Products based on new applications	.718	
Keep up to date with technological developments	.639	
Engaged in R&D	.613	
Participation in networks	.526	
Wish to stay own boss		.608
Preparation length between decision and startup		.656
Number of times business plan consulted		.541

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 3 iterations.

Source: own research

The analysis of the nascent entrepreneurs panel made it clear that it was not possible to draw any conclusions on learning strategies regarding Shrivastava's (1983) typology. The data in this panel appeared to be not sufficient for this analysis. Therefore, this data panel is not further consulted in this part of the empirical research.

6.2.3 *Organizational learning style conclusions*

Evidence has been found on the two categories of slower and faster learning companies. Regarding the second pair of hypotheses it is clear that the two categories, as described by Shrivastava (1983) and Honig and Davidsson (2000), are present in the Dutch entrepreneurial landscape. The slower and the faster learning organizations can be identified. The findings of these factor analyses endorse the use of this typology tool for further studying learning organizations of entrepreneurs. The results of this part of the empirical analysis make thus clear that the typology is a useful tool to further research entrepreneurial learning.

6.3 Learning style characteristics

6.3.1 *Analysis and Results*

This part of the empirical research deals with the last group of hypotheses. The factors that were found in the previous analyses are now used as input in the Pearson χ^2 (Chi-Square) test. Cross tabs are used to show differences among these factors. Differences among the factors are then analyzed and interpreted as differences along the spectrum of types of learning entrepreneurs. In this analysis attention is paid to variables as age, gender, level of education, organizational goals, and problems the entrepreneurs had.

The hypotheses that are tested in this part of the empirical analysis are:

- 3a Differences can be seen between the types of the typology of learning entrepreneurs in the Dutch entrepreneurial landscape in different stages.
- 3b Differences can be seen between two categories of types of the typology of learning organizations in the Dutch entrepreneurial landscape in different stages.

This analysis thus focuses on differences that can be empirically found within the types of the typologies. Theoretically, differences do exist and this empirical analysis provides insights in the differences among the types in reality, represented by the factors found in the sections 6.1.2, and 6.2.2 in the data panels. The panels used in this part of the empirical research are the young enterprises panel and the start-up panel.

6.3.2 *Entrepreneurial learning styles*

The analysis was performed with the use of cross tabs. The assimilator and accommodator entrepreneurs are represented by factors. The entrepreneurs that are placed in the upper quartile of the score on either of the two learning types were marked, where all other entrepreneurs were marked as non-assimilators or non-accommodators. For the divergers and convergers, the upper respectively the lower quartile on the third factor were selected. Consequently, an entrepreneur can be associated to more than one learning style (as well as to none of the learning styles). However, from this approach it follows that an entrepreneur cannot belong to the diverger group and the converger group at the same time. In the tables 6.7, 6.8 and 6.9 it is shown how the classification is structured for the samples of Dutch entrepreneurs. The classification enables it to analyze differences in characteristics of the distinguished entrepreneurial learning types.

Table 6.7: Classification structure 1998 / 1999 start-up panel

	Accommodator	Assimilator	Converger	Diverger
Accommodator	245			
Assimilator	83	280		
Converger	167	98	300	
Diverger	6	37	x	200

Source: Own Research

Table 6.8: Classification structure young enterprises panel in 1994

	Accommodator	Assimilator	Converger	Diverger
Accommodator	437			
Assimilator	137	467		
Converger	144	105	378	
Diverger	59	92	x	403

Source: Own Research

Table 6.9: Classification structure young enterprises panel in 1998

	Accommodator	Assimilator	Converger	Diverger
Accommodator	125			
Assimilator	44	163		
Converger	40	37	124	
Diverger	18	32	x	126

Source: Own Research

Regarding to the typology of learning entrepreneurs the following results were found in the analysis of the differences between the factors. These differences are found in cross tabs of the factors and variables.

Accommodator

First the results of the start-up stage are presented. With respect to gender differences, the distribution of males and females is not balanced evenly. The results show that the group of respondents that cannot be characterized as accommodators contain a larger percentage of females than the group that can be characterized as accommodators. The group that can be characterized as accommodators shows a larger percentage of males.

Accommodators indicated that they have problems with personnel shortage, and problems with suppliers. They also indicated that the timely payment by clients cause trouble. They appear not to have a shortage of their own knowledge and experience.

In the young enterprise stage, also gender differences are present. The distribution of males and females is not balanced evenly and the results show that the group of respondents that can be characterized as accommodators contain a larger percentage of males than the group that cannot be characterized as accommodators. The group that cannot be characterized as accommodators shows a larger percentage of females. In the start up stage, accommodators in the young enterprises panel indicated that they had problems with the regulations on labor, with hiring qualified personnel, and with their liquidity position. Four years later they indicated that they had fewer problems at all and that these problems were not significantly higher than others. Now, the return on investments caused problems

Diverger

First the results of the start-up stage are presented. With respect to gender differences, the distribution of males and females is not balanced evenly. The results show that the group of respondents that can be characterized as divergers contain a larger percentage of females than the group that can be characterized as convergers. The converger group contains a larger percentage of males.

Regarding the problems in this stage, the divergers seem to have relatively less problems than the convergers. The main problems they face have to do with return on investments and competition.

Also in the young enterprise stage, gender differences are present in the results. The results show that the group of respondents that can be characterized as divergers contain a reasonably larger percentage of females than the group that can be characterized as convergers. The converger group contains a larger percentage of males.

The divergers in the young enterprises panel indicated at their start-up that they had problems with the Establishment act requirements. Four years later they indicated to have problems with competition as well as the technical equipment of the firm.

Assimilator

In the start-up stage, regarding gender differences, the assimilator shows a balanced distribution of males and females in the start-up panel. Regarding the problems they face in this stage, they indicated the regulations on labor, the hiring of qualified personnel, and problems with suppliers. Also regional policy and their liquidity position were causes of problems.

Also in the young enterprises stage, gender differences are not present. The assimilator group shows a balanced distribution of males and females.

The entrepreneurs in the young enterprises panel indicated at their start that their largest problems had to do with the restructuring of the company, their liquidity position, the attitude of the banks and the application of new methods. Four years later the restructuring of the company was no longer a problem, but the liquidity position still was. The assimilators had new problems with the return on investments, the attitude of banks and with regulation on the environment.

Converger

In the converger group differences in the distribution of gender in the start-up stage are present. The distribution of males and females is not balanced evenly and the results show that the group of respondents that can be characterized as convergers contain a larger percentage of males than the group that can be characterized as divergers. The diverger group contains a larger percentage of females.

The convergers seem to have difficulties with a shortage of personnel and the hiring of qualified personnel. They also indicate that the timely payment by clients as well as their liquidity position can cause problems. On the whole, they seem to have more problems than the divergers.

Also in the young enterprises stage, the converger group shows differences in the distribution of gender. The distribution of males and females is not balanced evenly and the results show that the group of respondents that can be characterized as convergers contain a larger percentage of males than the group that can be characterized as divergers. The diverger group contains a larger percentage of females.

The convergers from the young enterprise panel indicated at their start-up that they had problems with the regulation on the environment. They also indicated to have

problems with hiring qualified personnel as well as with the application of new methods. Four years later they indicated that the problems with the regulation on environment have only just increased just as the problem with hiring qualified personnel. A new problem is the timely payment by clients as is the regulation in other areas.

6.3.3 *Organizational learning strategies*

The results of the analysis of the learning strategies of organizations are discussed in this section. The analysis was performed with the use of cross tabs. The two factors, with which the two learning categories are identified, are input as well as data on gender of the entrepreneur, education level of the entrepreneur, organizational goals and organizational problems.

Regarding the gender differences in the slower learning organizations males and females are distributed evenly. Among the faster learning organizations differences do occur. Faster learning organizations more often have a male entrepreneur than a female entrepreneur. Organizations with a faster learning strategy have a relatively large group of male entrepreneurs.

Regarding the education level of the entrepreneurs of the organizations, the results show that slower learning organizations seem to have entrepreneurs with a lower education level. For instance, only 18% of the entrepreneurs have a university degree, while the faster learning organizations have entrepreneurs of which a relatively larger group, 28%, has a university degree.

An important organizational goal of both slower and faster learning organizations is to enjoy work. For faster learning organizations it is also very important to improve craftsmanship and get into new markets, while slower learning organizations express their wish to expand their housing and open new establishments.

Regarding the organizational problems the results show that faster learning organizations have relatively the same amount of problems as slower learning organizations do. However, there are differences between the sorts of problems. It seems that faster learning organizations have to deal with problems such as ignorance considering regulation, timely payment by clients and their return on investments. Slower learning organizations seem to have more trouble with their liquidity position and regional policy. The largest problem that the slower learning organizations have to deal with is the attitude of banks. The faster learning organizations on the other hand seem to have more trouble with the development of markets.

6.4 Confrontation conceptual framework with empirical results

This section deals with the assumptions as put forward in the presented hypotheses and the empirical results. The objective is to draw conclusions with the outcome of the empirical analysis on the structure of the empirical framework. The individual learning level as well as the organizational learning level is discussed.

With regard to the first hypotheses 1a and 1c the results show summarizing factors that reflect the learning types accommodator and assimilator. With regard to hypotheses 1b and 1d, the results show a summarizing factor that reflects both learning types and places them in a scale relative to each other. From these results it must be concluded that the hypotheses must be accepted. The results show that the answer to the first empirical sub-question of the research question must be affirmative. The typology of learning entrepreneurs can be found empirically in the Dutch entrepreneurial landscape.

Regarding the hypotheses 2a and 2b the results show summarizing factors that reflect the slower and faster learning strategies of organizations. From these results it must be concluded that the hypotheses must be accepted. The results show that the answer to the second empirical sub-question of the research question must be affirmative. The typology of learning organizations, sub-divided into two categories, can be found empirically in the Dutch entrepreneurial landscape.

The third empirical sub-question is operationalized with the use of hypotheses 3a and 3b. The results of the statistical analysis for the significance of the relationship between different categorical variables and the different learning types show that differences do exist among the groups. This research has only provided little insight into these groups, but it can already be concluded that differences do exist. The answer to the third empirical sub-question of the research question must be affirmative. It is possible to find differences between the different groups of learning styles and strategies.

Regarding the conceptual framework the empirical results make it possible to conclude that this framework can serve as a useful tool to further study entrepreneurial learning. Studying the learning activities of entrepreneurs with these typologies make it possible to get a better insight and gain more knowledge on how this special species of the human kind operate.

6.5 Conclusions

In this chapter, the empirical analysis is performed in order to test whether the theoretical assumptions on learning entrepreneurs and their organizations are in accordance with reality. The results of the analysis are presented along with the conclusions on the findings on learning entrepreneurs and organizations.

The results of the empirical analysis showed that the theoretical assumptions regarding the learning entrepreneurs and the typology of Kolb (1984) were correct. Regarding the first hypotheses it is clear that the four types as described by Kolb can be found empirically and therefore are present in the Dutch entrepreneurial landscape. The assimilator, the diverger, the converger, and the accommodator types of learning can be attributed to entrepreneurs. Two types were found in a factor consisting of a scale. These were on one end the diverger type and on the other end the converger type. These findings are in accordance with the theory of Kolb. Regarding the assimilator and the accommodator no evidence was found for a negative correlation between these types. The findings of these factor analyses encourage the use of Kolb's typology for this kind of research. The results of this part of the empirical analysis make thus clear that the typology is a useful tool for further studying entrepreneurial learning.

The results on the analysis of the differences of the entrepreneurial learning styles show that gender differences are present in the Dutch entrepreneurial landscape among the different learning style groups. Entrepreneurs that can be characterized as Divergers are more likely to be females. Entrepreneurs that cannot be characterized as Accommodators also show a reasonably large percentage of females. Problems accommodators have are often related to their personnel. They cannot find qualified personnel and have personnel shortages. Divergers mainly have problems with competition throughout the years. Assimilators mainly have problems with their liquidity throughout the years. The converger group indicated that the largest problems were related with hiring qualified personnel.

Evidence has also been found on the two categories of slower and faster learning companies. Regarding the second pair of hypotheses it is clear that the two categories, as described by Shrivastava (1983) and Honig and Davidsson (2000), are present in the Dutch entrepreneurial landscape in the two stages of start-up entrepreneurs and young enterprises. The slower and the faster learning organizations can be identified. These findings endorse the use of this typology tool for further studying learning organizations of entrepreneurs.

Regarding the gender differences in the slower learning organizations males and females are distributed evenly. Among the faster learning organizations differences do occur. Organizations with a faster learning strategy have a relatively large group of male entrepreneurs. The education of the entrepreneurs of the slower learning organizations seems to be of a lower level than the education level of entrepreneurs of faster learning organizations.

The main goals of faster learning organizations are to improve craftsmanship and get into new markets, while slower learning organizations express their wish to expand their housing and open new establishments. Regarding the organizational problems the results show that faster learning organizations have relatively the same amount of problems as slower learning organizations do. The largest problem that the slower learning organizations have to deal with is the attitude of banks. The faster learning organizations on the other hand seem to have more trouble with the development of markets.

The findings on the learning activities of the different types of entrepreneurs and organizations make it clear that not every entrepreneur has the same problems at the same time. Some have specific areas where they find more problems than other entrepreneurs. The others might have fewer problems all together. This study also shows that changes do occur in the amount of problems and in the problem areas during the years. Entrepreneurs should therefore be focused on their learning situation. They can identify their own personal learning style and hence be able to undertake action in the right direction upon that knowledge of the personal learning style.

Regarding the conceptual framework the empirical results make it possible to conclude that this framework can serve as a useful tool to further study entrepreneurial learning. Studying the learning activities of entrepreneurs with these typologies make it possible to get a better insight and gain more knowledge on how this special species of the human kind operate.

7 Conclusions and Discussion

In the previous chapters the theoretical and empirical research into learning strategies of entrepreneurs and their organizations has led to the presentation of the results in chapter six. This chapter summarizes the main conclusions and results of all parts of this study. The aim of this chapter is to provide a clear answer to the central research questions as put forward in chapter one. These questions are:

How do entrepreneurs and their new ventures learn, and how are they involved in dynamic learning processes ?
What typologies of learning entrepreneurs and organizations can be theoretically distinguished and empirically found in the Dutch entrepreneurial landscape ?

The sub-questions used for answering the main research questions were the following:

Theoretical Part:

- 1 What are the key individual and organizational learning processes that can be distinguished from literature ?
- 2 How do small businesses develop over time ?
- 3 What typologies of learning entrepreneurs and organizations can be theoretically distinguished ?

Empirical Part:

- 1 Can the typology of learning entrepreneurs be found empirically in the Dutch entrepreneurial landscape ?
- 2 Can the typology of learning organizations be found empirically in the Dutch entrepreneurial landscape ?
- 3 Is it possible to find differences between the different groups ?

7.1 Concluding remarks

This section provides conclusions from all relevant parts of this study. It focuses on the main theoretical as well as empirical findings. The performed analyses are presented along with the results.

The main research question is dealt with in a precise manner by subdividing it into sub-questions. The theoretical sub-questions of the research question are all dealt with in the chapters two, three, and four. The empirical sub-questions are dealt with in chapter six. First a reflection is provided on the conclusions of the theoretical part of this study.

Chapter two started by introducing aspects and characteristics of entrepreneurship and explained how this study approaches the area of learning and entrepreneurial learning in particular. It discussed what theory could be used for the study and why new theory was needed in order to develop useful typologies for studying learning entrepreneurs. It therefore continued by providing a review of both individual and organizational learning processes. It then presented the typologies of learning individuals and organiza-

tions. With the use of these typologies, further research into the entrepreneurial learning area will be possible. The following section recapitulates the principal issues of the processes of learning individuals and organizations.

To understand individual learning processes it is important to acknowledge that cognitive structure of individuals derives from action, which, in turn, forms the basis for further action. Experience therefore develops cognitive structure, or, individuals learn by doing. This experience takes place in certain environments. These environments contribute to individual cognitive development through adaptation and accommodation processes between the environments and individuals. The environments are physical as well as social and the individuals are situated in these environments. Active participation of individuals in certain environments will provide them with experience. A more knowledgeable environment can help others to develop new skills and learn more. Learning environments can be characterized as communities of practice. Within these communities, learning individuals move from peripheral toward full participation in the socio-cultural practices of a community.

According to Kolb individual learning can be best conceived as a continuous process grounded in experience. He developed his experiential learning theory using the above-mentioned theoretical basis. He developed a typology of learning styles that explains how individuals learn in certain situations. The styles he distinguished are the convergent learning style, the divergent learning style, the assimilative learning style, and the accommodative learning style. This typology of learning styles is used in the empirical part of this study.

To understand the reason why organizations learn, it is first necessary to acknowledge the value of organizational learning. Organizations need to develop a learning capability to achieve certain resource configurations that result in competitive advantage. This learning capability and the organizational learning processes are best analyzed by using the brain metaphor for learning organizations. Organizations are learning entities and must be able to learn in single-loop learning processes, double-loop learning processes and deuterio learning processes. Deuterio learning represents the capability of knowing when and how to use single- or double-loop learning.

Organizations can, just as individuals, perceive and process information in different ways. Shrivastava provided a valuable typology of six different ways, or learning strategies of organizations. This typology describes the one-man institution, the information seeking culture, the participative learning system, the formal management system, and the mythological learning system. The bureaucratic learning system is not further explained in this study. The typology is a valuable tool for studying learning organizations and is used in the empirical part of this study.

An important aspect of the entrepreneurial world is that it is particularly dynamic. This study therefore makes use of theory on the development of small businesses. Chapter three provides a theoretical review of the development of small businesses and the change of the role of entrepreneurs. Developing a business does not necessarily mean that the venture actually grows in number of employees. Entrepreneurs sometimes even do not want their ventures to grow. Developing can also mean that individual and organizational capabilities evolve and develop in a "single-loop learning way". The individual and the organization then will learn how to exploit their capabilities as efficient as possible.

The evaluation of the growth theories has shown that the life-cycle theories share their perceptions on the stages of development. They all pass through more or less similar

stages such as start-up, survival, growth, and maturity. Although it is clear that there is much criticism on the life-cycle theories, there remains no doubt that there are difference between the start and the growth phase of a new business.

The research of Churchill and Lewis has shown that a very important factor in the early stage is the owner's talent, ability and willingness in order to let his new venture come about. The entrepreneur's capabilities will determine the organizations ability to develop. In the nascent phase the most important assets entrepreneur needs to acquire are funds and good information. In the start-up phase the entrepreneur has full responsibility for all activities. He must develop his entrepreneurial skills really well during this period. The organization needs to fight for viability and survival. In the young enterprise phase (growth phase) communication becomes more formal and. In order to grow, funds are needed and the entrepreneur must change into a managerial role. He must be able to let go of tasks and focus on opportunities, strategic issues, and exploration.

To be able to test and empirically study the theoretical findings of chapter two and three, an operationalization is needed of these theories. Chapter four provides a presentation of this operationalization of the two typologies of individual and organizational learning activities. The individual learning processes are operationalized by the typology of four learning types as described by Kolb, the *Converger*, the *Diverger*, the *Assimilator*, and the *Accommodator*. The organizational learning processes are operationalized by the typology of learning strategies as presented by Shrivastava, the One-man institution, the Information seeking culture, the Participative learning system, the Formal management system, the bureaucratic learning system, and the Mythological learning system. These types have been subdivided into two categories, the slower learning strategies and the faster learning strategies. Furthermore, this chapter provided hypotheses that are tested in the empirical research part of this study. These hypotheses are concerned with the identification of the typologies in the data as well as possible differences between the types in the typologies.

It is important to test and study the hypotheses in the scientifically correct manner. Therefore, chapter five discusses the methodology and data that is utilized in this research. For the empirical part of this study use was made of data that was gathered, maintained, and financed by EIM Business and Policy Research. The use of this data has various advantages. The collection of reliable data on nearly 2,000 entrepreneurs is an extremely difficult task and often takes much time. Also, the reliability of the data was guaranteed by EIM Business and Policy Research, which make the data particularly valuable.

An important and complex part in this study was to match the variables that formed the conceptual framework with the data from the panel datasets. The data was not specifically focused on learning activities and psychological determinants of the entrepreneurs. Therefore some of the variables used in the conceptual framework were combined to be able to match the data and the framework. Gathering data through surveys has the consequence of not being able to view facial expressions, gestures, or attitudes. Also it is not possible to obtain explanations for certain answers. However, under the given circumstances, the proposed research design fits best to be able to deal with the research question.

The analysis and results of the empirical part of this research are presented in chapter six. In this chapter, the empirical analysis is performed in order to test whether the theoretical assumptions are in accordance with reality. The results of the analysis are

presented along with the conclusions on the learning entrepreneurs and on learning organizations.

The results of the empirical analysis showed that the theoretical assumptions regarding the learning entrepreneurs and the typology of Kolb (1984) were correct. Regarding the first hypotheses it is clear that the four types as described by Kolb can be found empirically and therefore are present in the Dutch entrepreneurial landscape. The assimilator, the diverger, the converger, and the accommodator types of learning can be attributed to entrepreneurs. Two types were found in a factor consisting of a scale. These were on one end the diverger type and on the other end the converger type. These findings are in accordance with the theory of Kolb. Regarding the assimilator and the accommodator no evidence was found for a negative correlation between these types. The findings of these factor analyses encourage the use of Kolb's typology for this kind of research. The results of this part of the empirical analysis make thus clear that the typology is a useful tool for further studying entrepreneurial learning.

The results on the analysis of the differences of the entrepreneurial learning styles show that gender differences are present in the Dutch entrepreneurial landscape among the different learning style groups. Entrepreneurs that can be characterized as Divergers show a relatively larger group of females. Entrepreneurs that can be characterized as accommodators also show a reasonably large percentage of males. Problems accommodators have are often related to their personnel. They cannot find qualified personnel and have personnel shortages. They indicate to have fewer problems in the young enterprise stage than in their start-up stage. Divergers mainly have problems with competition throughout the years. Assimilators mainly have problems with their liquidity throughout the years. The converger group indicated that the largest problems were related with hiring qualified personnel and the problems with regulations on the environment increased during the years.

Evidence has also been found on the two categories of slower and faster learning companies. Regarding the second pair of hypotheses it is clear that the two categories, as described by Shrivastava (1983) and Honig and Davidsson (2000), are present in the Dutch entrepreneurial landscape in the two stages of start-up entrepreneurs and young enterprises. The slower and the faster learning organizations can be identified. These findings endorse the use of this typology tool for further studying learning organizations of entrepreneurs.

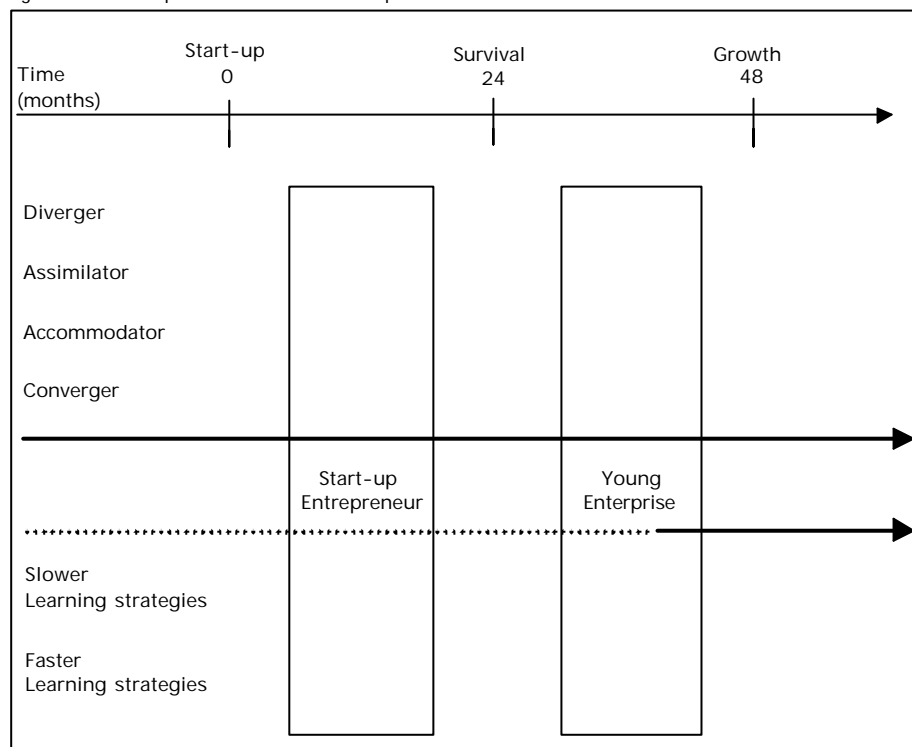
Regarding the gender differences in the slower learning organizations males and females are distributed evenly. Among the faster learning organizations differences do occur. Organizations with a faster learning strategy have a relatively large group of male entrepreneurs. The education of the entrepreneurs of the slower learning organizations seems to be of a lower level than the education level of entrepreneurs of faster learning organizations.

The main goals of faster learning organizations are to improve craftsmanship and get into new markets, while slower learning organizations express their wish to expand their housing and open new establishments. Regarding the organizational problems the results show that faster learning organizations have relatively the same amount of problems as slower learning organizations do. The largest problem that the slower learning organizations have to deal with is the attitude of banks. The faster learning organizations on the other hand seem to have more trouble with the development of markets.

The findings on the learning activities of the different types of entrepreneurs and organizations make it clear that not every entrepreneur has the same problems at the same time. Some have specific areas where they find more problems than other entrepreneurs. The others might have fewer problems all together. This study also shows that changes do occur in the amount of problems and in the problem areas during the years. Entrepreneurs should therefore be focused on their learning situation. They can identify their own personal learning style and hence be able to undertake action in the right direction upon that knowledge of the personal learning style.

Regarding the conceptual framework the empirical results enable to conclude that the framework as presented in figure 7.1 can serve as a useful tool to further study entrepreneurial learning. The aim of this research was to further develop the debate on entrepreneurial learning. By presenting this framework that purpose is achieved. Studying the learning activities of entrepreneurs with these typologies make it possible to get a better insight and gain more knowledge on how this special species of the human kind operate.

Figure 7.1: Conceptual framework and empirical results



Source: Own research

7.2 Discussion

Throughout the time this research was written, a constant effort was made to guard the quality. By involving many professionals in the research and constantly double-checking the information used, it is possible to guarantee the value of this scientific research. The following section presents the scientific and practical contribution of this study, and provides recommendations for further research. This study, however, also has its limitations. These limitations come forward from the choices and decisions that

were made by the author during the research process. The following section also deals with these limitations.

Scientific and practical contribution

This study has attempted to be of theoretical as well as practical value. It tried to further develop theory on entrepreneurial learning. So far, there has not been typology research for learning entrepreneurs. Ideas on how entrepreneurs might learn and what kind of cognitive mechanisms entrepreneurs use have been presented (Baron, 1998; Cope and Watts, 2000), but a classification of learning styles among entrepreneurs has not been studied yet. Therefore this research has attempted to use an interdisciplinary approach and focus on both the learning individual, and the learning organization in search of usable typologies. For the first focal point, a psychological approach was needed, and for the second focal point organizational theory was required. By introducing the framework as presented in figure 7.1 a contribution to the scientific field of entrepreneurial learning is therefore provided.

The practical contribution of this research lies in the analyses of the Dutch entrepreneurial landscape. Studying these entrepreneurs and their learning activities results in the presentation of clear and evident characteristics and problems of certain learning types. Individuals or organizations that find themselves in a certain learning type position can learn more about possible problems they might run into or certain qualities they might have and need to exploit. The findings from this study are therefore also considered as a practical contribution.

Limitations

In this thesis an effort is made to explore individual learning theories from a psychological perspective. Professional psychologists however are much more able to analyze individual cognitive processes than professionals with a business focus. This research only deals with cognitive processes in chapter two. It is obvious that much research has been done in this field and this research only presents an overview of the for this research relevant cognitive processes.

Multidisciplinary studies into entrepreneurship often use qualitative and case study research methods. This study however, has focused on large data-panels and therefore made use of statistical analyses in other words quantitative research. The choice is made for in-breadth rather than in-depth research. In order to be able to make justifiable claims, a secondary empirical quantitative research design is necessary.

In order to create valid perceptions of reality however, studying from one perspective is not enough. Future research should also be aimed at qualitative in-depth analyses of the learning processes of entrepreneurs and their organizations.

Recommendations for further research

The principal recommendation for further research following from this study is that the framework as presented in figure 7.1 must be used to further study entrepreneurial learning activities. Further developing the framework and using other data-panels can develop more knowledge on the learning processes of entrepreneurs and their organizations. Also, future research efforts must be made to link the learning processes to not only characteristics but also to entrepreneurial success determinants.

The conceptual framework of this research was constructed by using two main subjects: the individual learning processes and the organizational learning processes. This research did not combine these fields and study them together. In this regard, future research integrating efforts must be made in order to get a more complete view on learning processes of starting entrepreneurs and their new ventures. Future research should

also try to further develop organizational typologies for studying entrepreneurial learning.

The dynamics of entrepreneurial development are difficult to study. This research showed that it was difficult to analyze learning activities of nascent entrepreneurs. To develop a more detailed comprehension of the dynamics of the learning processes, future research efforts must be made to expand the knowledge on the learning activities of nascent entrepreneurs.

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Appendix

EIM Business and Policy Research

Increasing employment and dynamism, creating new markets and products, and developing new economic structures and power blocks are only a few of the qualities attributed to small and medium sized enterprises (Ministerie van Economische Zaken, 2001). These qualities do not only appear during the start of new businesses but also in years thereafter. EIM Business and Policy Research is a leading research agency. The main part of the studies is policy research. This research is done for government institutions, sector and umbrella organizations and intermediary organizations. The research information serves for these customers as a decision-making tool.

An important part of the policy research is the Research Program on SMEs and Entrepreneurship. EIM carries out this long-term research program on small and medium-sized enterprises (SMEs) and entrepreneurship with funds of the Dutch Ministry of Economic Affairs. Over the years this research program has created a unique, authoritative and publicly available knowledge center regarding the economic performance of small and new enterprises, with a special focus on the Netherlands. The main activities are the collection and processing of survey data and statistics, scientific analysis, publication of research findings and various activities to popularize and distribute the findings to a greater public. The main target groups of the program are policy makers, advisory organizations and fellow researchers. The findings of the scientific analyses are usually published in English, by means of Research reports or Strategic Studies. This part of the research program is called SCALES (acronym for SCientific ANALysis of Entrepreneurship and SMEs).

The major themes in the policy research of SMEs and Entrepreneurship vary from nascent entrepreneurship and business start-ups to innovation and human resources management. On many of these themes EIM disposes of unique statistical data. The scientific research is done in close cooperation with academic researchers at universities in the Netherlands and across the world. The findings of the studies are also presented at the major conferences in this field such as RENT, BABSON, and EARIE, and are published Small Business Economics and other scholarly journals. In this way SCALES has a lively discourse with the academic community and new research findings from elsewhere are easily absorbed. EIM fellows professor David Audretsch from Indiana University and professor David Storey from Warwick University, but also EIMs scientific advisor professor Roy Thurik from Erasmus University Rotterdam play an important role in this exchange of knowledge. The policy research program is of EIM is supervised by an external program commission, chaired by professor Paul Verhaegen, dean of the Rotterdam School of Management, part the Erasmus University. Additionally, a reference group with representatives of all target groups of the research program advises EIM about the direction of future research.

This study serves as an exploratory study into the learning activities of starting entrepreneurs. The study is supervised by EIM Business and Policy Research as well as the Erasmus University in Rotterdam (EUR). The people involved in this supervision are Wim Hulsink (EUR), Asmat Ikram (EUR), Niels Bosma (EIM), Joris Meijgaard (EIM, EUR), Sander Wennekers (EIM) and Roy Thurik (EIM, EUR). The findings of this study are presented at the RENT XVI conference in Barcelona (November, 2002) and will be published by EIM as a research report.