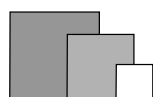




Research Report H200111

Growth patterns of medium-sized, fast-growing firms

**The optimal resource bundles for
organisational growth and performance**



SCALES

SCientific Analysis of Entrepreneurship and SMEs

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Zoetermeer, March 2002

ISBN: 90-371-0849-0
Order number: H200111
Price: € 21.-

This report is part of the research programme SMEs and Entrepreneurship, which is financed by the Netherlands Ministry of Economic Affairs.

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Summary

Growth of companies is an important policy issue. When we look at the growth rate of individual companies, we see different growth rates. Some companies grow for a long period of time, whereas others alternate growth and decline. Especially fast-growing firms are important because they account for a considerable amount of the creation of employment as well as the dynamism of the organisational stock. From a policy point of view, it is interesting to know why companies have different growth patterns, and more precisely why the growth rate of companies might decrease. Therefore, the research questions in this study are:

- *What possible organisational growth patterns and stages can emerge and which theories can explain these different growth patterns?*
- *Which resources are important in the different growth stages?*
- *To what extent do (the fit between) strategy and resources influence organisational growth?*

In this study, three theories that can explain the growth patterns are discussed in depth: lifecycle theory, teleology theory and evolutionary theory of organisational change.

In these three theories, resources play an important role in explaining growth. Together with the selected strategy, the growth ambition of the company and the external market growth, the resources are hypothesised to influence the growth of a company. A consistent strategy (a clear focus on one of the generic strategies) is hypothesised to be influenced by scanning the environment for new opportunities, a quick response of the company to these opportunities and a good dissemination of information within the company. The resources are determined by the observed barriers in acquiring the resources, the actual acquiring of the resources and an efficient use of the resources.

The model is tested in an empirical study; 208 companies participated in the telephonic interview. These companies were fast-growing companies in the period 1993-1998. With the collected data, we tested the model.

For companies that have an innovation strategy, it proved to be important to scan the environment (especially customers), to quickly react to the new opportunities. The dissemination of information is for that very important. For a low-cost strategy, only the dissemination of information is important. For a consistent bundle of resources (resources important for innovation or resources important for low cost) is influenced by the capability of the company to tune the different resources.

Market attractiveness (market growth, heterogeneity between competitors and products) proved to be very important for the growth of a company. Also low-cost resources are important for the growth of a company. We did not find evidence that companies focussing on one of the generic strategies will have a higher growth rate. Contrary to our expectations, we found a negative effect of the strategy-resource fit. This implies that if there is a better fit, the effect of strategy on the growth rate will be lower. The negative relationship might be influenced by a non-linear relation between strategy and resources on the one hand and growth on the other hand.

1 Introduction

The question how to grow or stimulate organisational growth is repeatedly asked by small-firm managers and policy makers. Dynamics and growth of organisations are considered to be important for enhancing economic growth. High-growth organisations are also important for new job creation (EFER, 1998). Fast-growing companies (EIM growth rate ≥ 1.5 ¹) account for one quarter of total employment creation in the Netherlands (Bangma & Verhoeven, 2001). Also in a OECD study (Schreyer, 2000), fast-growing companies are found important for employment growth.

The last decade, growth of firms and growth patterns get much more research attention (see e.g. Welbourne et al., 1998; Levie, 1997; Delmar & Davidsson, 1998, Brown et al., 2001). Theoretical and empirical research on growth patterns in the Netherlands is, to our knowledge, rather limited.

In a recent study, Bangma en Verhoeven (2000) found four different types of growth patterns in the Netherlands. Based on a combination of absolute and relative growth in employment, they identify:

- fast-growing companies with an EIM growth rate of ≥ 1.5 ,
- normal growers ($0.05 \leq \text{EIM} < 1.5$),
- stable companies ($-0.05 < \text{EIM} < 0.05$), and
- shrinking companies ($\text{EIM} \leq -0.05$).

Initial analysis shows that the classification is not stable over time. Even when a short time horizon is taken, there is a lot of dynamics (Bangma & Verhoeven, 2000). The growth rate of some companies decreases while the growth rate of other companies increases. Comparing the period 1990-1994 with 1993-1997, beside entry and exit, only 50% of the companies belong to the same growth type. Of the fast-growing companies in the period 1990-1994, only 40% are still fast-growing companies in the period 1993-1997. For normal growers, stable and shrinking companies, the percentages are 51, 50 and 52, respectively (see table 1). Focusing on fast-growing firms, we see that there is a considerable exchange with normal growing firms (44%). This means that most fast-growing companies (period 1990-1994) cannot hold their growth rate.

¹ For this purpose, the EIM growth rate is introduced (see Heeres and Verhoeven (1998), Appendix 2, for a more detailed discussion). The EIM growth rate is related to the Birch growth rate, but the impact of absolute growth on the growth rate is reduced. The definition of the EIM growth rate is: $\text{EIM} = (\text{empl}_t - \text{empl}_{t-6})^{0.25} \cdot (\text{empl}_t - \text{empl}_{t-6}) / \text{empl}_{t-6}$.

table 1 Switching patterns in growth rate comparing the periods 1990-1994 with 1993-1997 (destination)

		<i>Period 1990-1994</i>			
		<i>Fast-growing</i>	<i>Normal growing</i>	<i>Stable</i>	<i>Shrinking</i>
Period	Fast-growing	40%	9%	3%	3%
1993-1997	Normal growing	44%	51%	25%	24%
	Stable	7%	21%	50%	21%
	Shrinking	10%	19%	22%	52%
Period	Number of firms	12,100	56,100	50,000	53,000
1990-1994					

Source: EIM; based on data of database Reach, bureau Van Dijk.

In table 2, we can see that most fast-growing companies (period 1993-1997) originate from normal growing companies. These normal growing companies prove to be able to increase their growth rate.

table 2 Switching patterns in growth rate comparing the periods 1993-1997 with 1990-1994 (origin)

		<i>Period 1993-1997</i>			
		<i>Fast-growing</i>	<i>Normal growing</i>	<i>Stable</i>	<i>Shrinking</i>
Period	Fast-growing	33%	8%	1%	2%
1990-1994	Normal growing	37%	44%	20%	17%
	Stable	14%	23%	52%	22%
	Shrinking	16%	25%	26%	59%
Period	Number of firms	10,100	48,200	52,600	60,300
1993-1997					

Source: EIM; based on data of database Reach, bureau Van Dijk.

From these tables, it is clear that companies have different growth rates over time. Given the importance of organisational growth for the economy as a whole and the emphasis put on organisational growth by policymakers, it is interesting to investigate growth patterns in more detail. Extra emphasis will be put on barriers companies perceive in the growing process.

There are different schools of thought that have growth as the object of research. One of the most important schools of thought is the lifecycle theory. According to the *lifecycle theory*, companies pass through distinctive stages (each with its own characteristics) as they develop. This development process can be linked to the product lifecycle. Like products, companies do not move through the cycle at the same speed and unlike most products, companies can stay in the same stage for a considerable period of time. The lifecycle theory is deterministic by nature; companies follow a unitary sequence (it follows a single sequence of stages of phases), which is cumulative and conjunctive. The transition of one stage to the next is often accompanied by a crisis which may be external or internal to the company. Management has two major concerns in moving from one stage of development to the next. Firstly, they will be concerned with handling the crisis itself, i.e. the company has to pass the growth ceiling (Welbourne et al., 1998).

Secondly, if they succeed in this, they are faced with the second problem of managing the 'new company'. Each stage has its own characteristics and requirements. The stage of development determines the required resources and capabilities. If management can anticipate to the crises and what to expect in the next stage, it will improve the performance of the company and improve the survival rate.

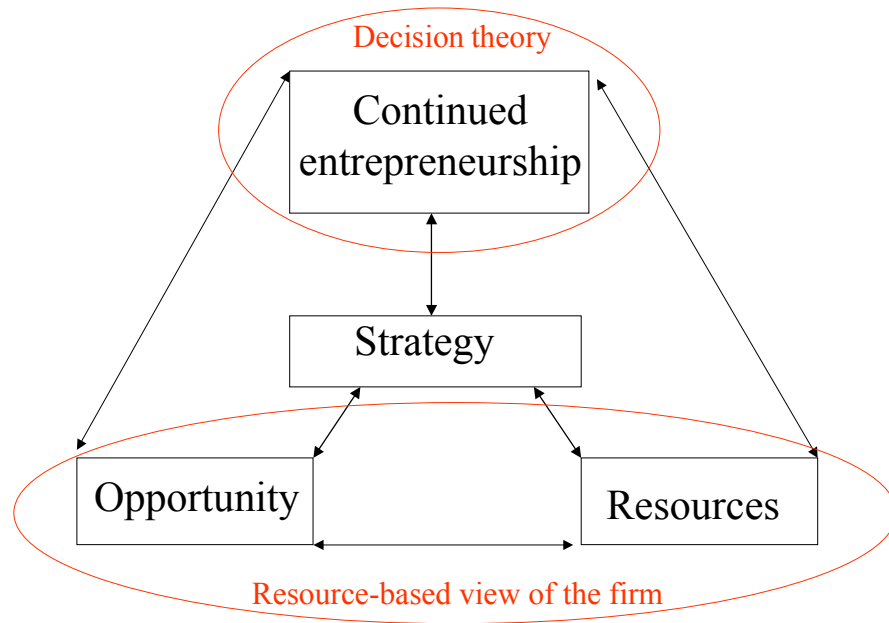
A second school of thought is the *resource-based view of the firm*. This view is more pro-active, i.e., managers must constantly scan the environment for opportunities and search for competitive advantage by creation, acquisition and utilisation of unique firm resources (Barney, 1991). The 'right' combination of productive resources provides the firm a competitive advantage that results in growth and a good performance (Penrose 1959; Barney, 1991). Theoretically, the development of strategic capabilities relies on certain combinations and re-combinations of resources and the prudent sequencing of those resources over time (Amit & Schoemaker, 1993; Garnsey, 1998). In this perspective, resources and resource bundles determine the growth pattern of a company.

Partly overlapping the lifecycle theory and the resource-based view is the literature on entrepreneurship. In this stream of literature, characteristics and behaviour of the entrepreneur are used to explain the growth of a company¹. Davidsson (1991) introduced the concept of '*continued entrepreneurship*' to explain the actual growth of companies. Part of the '*continued entrepreneurship*' is the opportunity-scanning capabilities and ability of the entrepreneur. The opportunity scanning is essential for selecting the right strategy and required resources/resource bundles.

In the lifecycle theory and the resource-based view of the firm, managers have to take decisions. In the lifecycle theory, they have to react to changes and crises that are inherent to the distinctive and sequential stages of the company (reactive). In the resource-based view of the firm, managers are pro-active and scan for new opportunities and acquire the necessary resources. A successful opportunity-scanning and resource-acquisition process will result in growth. In our view, '*continued entrepreneurship*' is closely related with the resource-based view of the firm with its constant process of acquisition and optimising the bundle of resources. It focuses on the characteristics of the entrepreneur and its behaviour, such as growth motivation and entrepreneurial capabilities. A key capability is the ability to identify opportunities and to optimise the process of acquisition and use of (bundles of) resources. This constant process of acquisition and optimising the bundle of resources, related to the pursued strategy, is not used as far as we know (see also Lichtenstein & Brush, 1997) to explain why certain growth patterns occur. In this study, we shall concentrate on an integration of the resource-based view of the firm and '*continued entrepreneurship*'. Both theories can be used to explain organisational growth in a pro-active way. The concept of lifecycles is deterministic. It can help to classify certain contingencies and expectations about the expected relationship between the different growth patterns. The lifecycle theory can be used to describe certain points of organisational development. The lifecycle theory will not be our starting point. In figure 1, we integrate the resource-based view and the '*continued entrepreneurship*'. This framework will be used in this study to investigate and compare the growth patterns of companies.

¹ This can partly be linked to decision-making theory; see e.g. Amit and Schoemaker, 1993:42.

figure 1 Framework of organisational growth



2 Aim and methodology of this study

In this study, we focus on the explanation of growth patterns of companies and more specifically on fast-growing companies. Our starting point is the resource-based view of the firm and 'continued entrepreneurship'. To understand the growth patterns and the differences between them, the following research questions are to be answered:

- *What possible organisational growth patterns and stages can emerge and which theories can explain these different growth patterns?*
- *Which resources are important in the different growth stages?*
- *To what extent do strategy and resources (and the fit between them) influence organisational growth?*

To answer these questions, a mix of a literature study and an empirical test is performed. The first two research questions will be based on a literature study, the last research question will be based on the empirical study.

3 Literature review on growth and growth patterns

In this chapter, we shall discuss the first two research questions of this study (growth patterns and resources). For this, the literature is reviewed. In section 3.1, we shall discuss organisational growth and growth patterns. In order to make a link with the empirical part, there will be a special focus on the link between environmental scanning, strategy and resources. In section 3.2, the resources will be linked to different growth patterns and the resource needs in the different stages. Finally, in section 3.3 we shall discuss literature on continued entrepreneurship.

3.1 Organisational growth and growth patterns

Organisational growth and growth patterns is an area where a lot of research has been done. The literature on organisational growth is, however, more or less static. Research on growth patterns focuses on processes and patterns of growth. Explanations are sought to explain these patterns.

3.1.1 *Organisational growth*

Broadly speaking, there are four streams of literature that deal with growth¹. First of all, there is the *effect of organisational growth on the economy*. Research efforts focus on the impact of new and growing firms on economic concepts like GNP and employment (Van der Hoeven and Verhoeven 1994; Davidsson and Delmar, 1999). The unit of analysis is often at a macro level (turbulence, start-ups, etc.) and not at the individual company level. The research focuses on the consequences of organisational growth on the economy as a whole.

Second, there is a group with a *micro economic perspective*. In this perspective, an organisation is seen as a production function. Growth can be achieved by using more production factors (more labour or more capital) or a more efficient use of these production factors (e.g. higher labour productivity). The process how the increasing input or the higher productivity is transferred (i.e. the process that lays behind the production function) to more growth often remains a black box. It is, however, interesting to understand how the black box works, i.e. how the (extra) resources (input) are used or how the resources are used more efficiently (increase in productivity).

Another group of literature has a more external perspective, i.e. how growth is achieved and which directions of growth are possible (Levie, 1997). Especially in the marketing and strategic-management literature, growth is one feasible strategy for a company, i.e. *growth as a business strategy*. A company can choose for market penetration, market development, product development or diversification (see e.g. Ansoff, 1984; Aaker, 1995). The chosen strategy should be based on a strategic competitive advantage of the company (e.g. a cost advantage, a totally new product or high quality). There are different ways to pursue the chosen strategy (Crijns & Ooghe, 1997). A

¹ For a discussion of how to measure growth and the consequences of different measures, see Delmar (1997).

have to result in distinctive competences, i.e. competences on which a company is better than their competitors and that are valued by the customers. Based on these competences, a company can choose the right strategy to grow. In the outside-in perspective, the environment and/or the customer is the starting point. A company scans the environment for new developments and opportunities and tries to pick the 'right' opportunity. This can be very risky, especially if the environment is very dynamic (e.g. fast technological developments) and complex (difficult to predict which factors influence the environment). If managers are better able to react on changes, they are better able to control the complex and dynamic environment and create conditions for organisational success (Thompson, 1993). Based on the scanned opportunities, the organisation has to organise the right resources. In recent research, an interaction between both perspectives is promoted (Vrieling, 1998).

The fourth group tries to identify concepts that influence organisational growth, and to study the consequences for the company (structure, leadership, etc.). These concepts can be classified in several groups of resources such as human capital, social capital of the entrepreneur, financial capital, etc. Baum et al. (2001) identify five different research domains that influence organisational growth: personal traits and general motives, personal competencies, situationally specific motivation, competitive strategies and the business environment. Most articles are empirical (descriptive) and often compare high-growth firms with low-growth firms. For example, the Ministerie van Economische Zaken (1999) compares fast-growing companies with normal growers on aspects as management, strategy, innovation, network/cooperation, organisational structure, human resources, management and export. The most important findings are that the founder of the firm in fast-growing companies is still present, management and personnel is higher educated and the fast-growing companies more often work with an integrated management team. Fast-growing companies more often introduce products, do more customer satisfaction research, are in front of new technology, and are reserved towards technological cooperation. And finally, fast-growing companies spend more money on education (on information technology and process technology) and focus less on export. Covin et al. (1990) look at strategic and operational differences between high- and low-growth companies. In studies on entrepreneurial orientation, the drive and abilities of the entrepreneur/managers are central. For example, Muzyka and De Koning (1998) found that the opportunity orientation, organisational processes and knowledge management are important factors in explaining growth. Eggers et al. (1997) showed that leadership styles differ in different stages of organisational growth. According to Davidsson (1991), growth is influenced by the need, ability, opportunity and growth motivation of the entrepreneur. In the study of Brown and Kirchhoff (1997), entrepreneurial orientation and resources are combined in order to explain growth. They argue that the owners' perception about resource availability, environmental munificence of resources, resource acquisition and self-efficacy are important factors to explain growth.

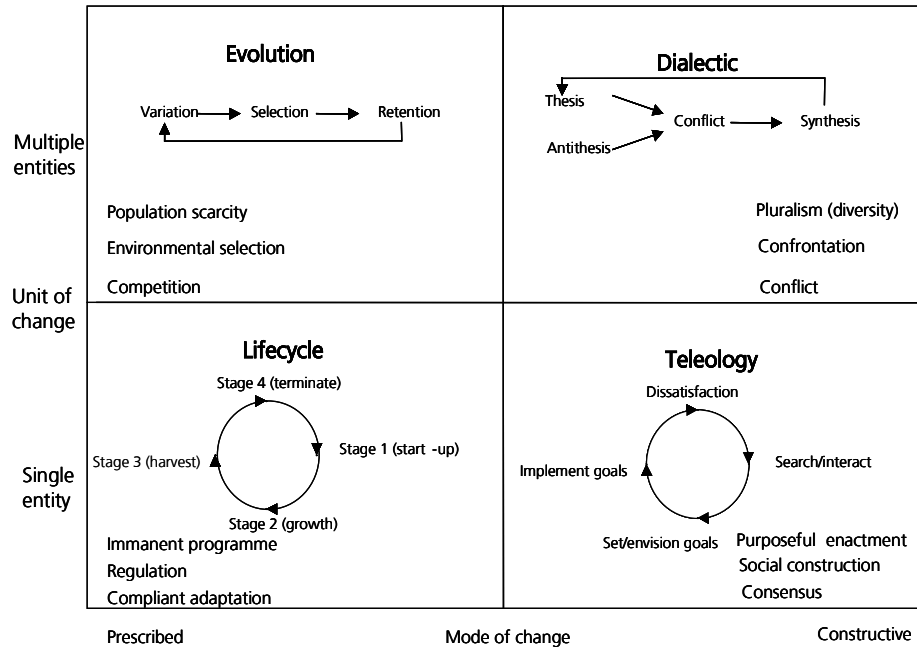
If we have a critical look at the four groups of literature, they all have a rather static perspective. However, growth is by definition dynamic. Therefore, to fully understand growth and growth patterns, a more dynamic approach is needed. We have to understand processes. In the next section, we shall discuss theories of organisational change and their relationship with organisational growth patterns.

3.1.2 *Growth patterns and organisational change*

In a review on development and change in organisations, Van de Ven and Poole (1995) identified four basic theories that explain how and why organisations change: lifecycle,

teleological, dialectical and evolutionary theories (figure 3). Based on these four basic theories, they developed 16 explanations of organisational change and development. Most of these 16 explanations can be supported by empirical studies. Based on the Van de Ven and Poole article, the suggested (empirical) theories can be analysed and compared in a systematic way.

figure 3 Theoretical perspectives on development and change of organisations*



* Arrows on lines represent likely sequences among event, not causation between events.

Source: Van de Ven & Poole (1995).

Looking at these theories with a focus on resources (important aspect in explaining growth; see discussion above) and the resource-based view of the firm, the lifecycle theory, teleology theory and evolution theory are important in this study to explain growth¹. We shall first describe the three theories in more detail.

The lifecycle theory

The *lifecycle theory* is prescriptive and focuses on a single entity. A lifecycle model depicts the process of change in an entity as progressing through a necessary sequence of stages. An institutional, natural, or logical programme prescribes the specific contents of these stages (Van de Ven & Poole, 1995:520). A number of multistage models have been proposed in which predictable patterns of growth of organisations are assumed to exist. Often, the stages follow a pattern of start-up, growth, formalisation and so on (e.g. Quinn & Cameron, 1983).

¹ The dialectical theory focuses on stability and change based on the (im)balance of power between opposing entities. Struggles and accommodations that maintain the status quo between oppositions produce stability. Change occurs when these opposing values, forces or events gain sufficient power to confront and engage the status quo. In this theory, there is no attention for resources (although conflicts might occur over the possession of and/or access to the critical resources). Therefore, we shall not use the dialectical theory in this study.

The most important life-cycle models are reviewed by Hanks et al. (1993). Based on this review, they come to a five-stage model: start-up stage, expansion stage, consolidation stage, diversification stage and a decline stage. In table 3, the lifecycle-stage characteristics are described.

table 3 Lifecycle-stage characteristics

<i>Dimension</i>	<i>Start-up stage</i>	<i>Expansion stage</i>	<i>Consolidation stage</i>	<i>Diversification stage</i>	<i>Decline stage</i>
Age	Young	Older	Any age
Size	Small	Large	Largest	Declining
Growth rate	Inconsistent	Rapid positive	Slow growth	Rapid positive	Declining
Structural form	Undifferentiated, simple	Departmentalised, functional	Departmentalised, functional	Divisional	Mostly functional
Formalisation	Very informal, personal, flexible, few policies	Formal systems begin to emerge, but enforcement is lax	Formal bureaucratic; planning & control systems are enforced	Formal bureaucratic	Excessive bureaucratization
Centralisation	Highly centralised in founder	Centralised; limited delegation	Moderately centralised	Decentralised	Moderately centralised
Business tasks	Identify niche; obtain resources; build prototype; set up task structure	Volume production & distribution; capacity expansion; set up operating systems	Make business profitable; expense control; establish management systems	Diversification; expansion of product market scope	Revitalisation; redefinition of mission and strategy

Source: Hanks et al., 1993: 12.

Some models focus on specific cases, such as small business (Scott and Bruce, 1987; Mount et al., 1993), leadership (Eggers et al., 1997) or technology-based companies (Kazanjin, 1988).

Scott and Bruce (1987) and Mount et al. (1993) focus on models for small-business growth. Their proposed model is based on crises that a company faces in their growth process. They identify 5 stages: inception, survival, growth, expansion and maturity. The periods between two crises are characterised by evolution. Especially in a period of crisis, there is a change of decline or fold. In the periods of evolution, there is time to optimise the characteristics of the company (management style, organisation structure, systems, etc.). According to Mount et al. (1993), phase 2 and phase 4 are transition periods. Especially the position of the owner/manager changes in the different phases. From owner/operator in stage 1 there is a transition in stage 2 to owner/manager in stage 3. Stage 4 is a transition stage to emerging functional management in stage 5. The growth pattern is characterized by a different pace of growth over time.

Eggers et al. (1997) distinguished six stages, conception, survival, stabilisation, growth orientation, rapid growth and resource maturity. They also distinguished that companies can pass over a stage (hypergrowth) or fall back in a previous stage (backsliding). As with other models, they also found specific characteristics per stage. They focus, however, on the management skills. They identify different management skills per

stage, although some skills were very important in each stage (e.g. communication, financial management) and there was not much distinction between high- and low-growth companies.

Kazanjin (1988) developed a four-stages-of-growth model for technology-based new ventures and described the problems companies face each stage. In the first stage, the conception and development stage, the most important problems were resource acquisition and technology development and in the third stage, growth, the most important problems were sales/market share growth and organisational issues. In the second and fourth stages, no clear pattern of problems was found.

In all these models, the development stage of the company determines the importance of different management tasks and leadership styles. Also each stage has its own (growth) strategy. According to Chandler (1962), a company can pursue the following growth strategies: volume expansion, geographic dispersion, vertical integration and product diversification (see also Crijns & Ooghe, 1997).

In all these models, there is an implicit assumption that growth is an objective and that size will increase. These lifecycle models add to our understanding of the rather complex concept of organisational growth. However, these models have several shortcomings. Kazanjian (1988) argued that the stages are based on problems firms encounter and the corresponding organisational forms likely to result. As its problems change, an organisation must alter its form accordingly. In these models, management is more or less reactive. Secondly, most models do not take into account the role of industry, technology and other situational variables. Finally, most work on lifecycle models is conceptual, lacking empirical tests. The empirical work that has emerged has primarily focused on differences in internal organisational characteristics (such as leadership and policies, structure, strategy, etc.) across theorized stages. For example, in the first stages of the lifecycle, entrepreneurial orientation proved to be an important predictor of performance and growth of the organisation (Wiklund, 1998). In the later stages, a 'continued entrepreneurship' could be a predictor of the growth rate of established firms (Davidson, 1991).

The teleology theory

In the *teleology theory*, the purpose or goal of management (e.g. growth) is the final cause for guiding movement of an entity. In this perspective, an organisation sets goals and by taking actions and adaptation it tries to reach its goals. These goals are socially constructed and enacted based on past actions (Weick, 1979). Thus, development is a repetitive sequence of goal formulation, implementation, evaluation, and modification of goals based on what the organisation has learned. Comparable with the lifecycle theory, teleology theory focuses on a single company. However, teleology theory does not prescribe a necessary sequence of events or specify which development stages the organisation will follow. It also cannot specify up front which trajectory developments an organisation must follow in order to reach its goals. It can only list a set of possible paths and then rely on norms of decisions rationality or action rationality (Brunsson, 1982) to prescribe certain paths.

A company can pursue different objectives; growth can be one of them. There are different ways to reach the growth objectives. Also, growth is not necessarily a result of accomplishing the goals. As growth can be one goal of the organisation, it can have different meaning. A company can pursue growth in size (turnover, employment), in

profit (profit before tax, return on investment), in value (stockholder value, stakeholder value), and in quality (image, know-how, innovation) (Crijns and Ooghe, 1997).

In the teleology theory, there is a focus on the prerequisites for attaining the goals: the functions that must be fulfilled, the accomplishments that must be achieved, or the components that must be built or obtained for the end state to be realised. The purposiveness of an actor or unit as a motor for change is constrained by the organisational environment and resource constraints. Once an organisation attains its goals, this does not mean it stays in permanent equilibrium. New goals will be set. Also influences in the external environment or within the organisation itself may result in new goals.

Central in this theory are theories on decision making (March & Simon, 1958) and models of strategic planning and goal setting (Chakravarthy & Lorange, 1991). In the decision-making theory, the starting point is psychology with stimulus-response/actions processes. The individual with other individuals forms a group or organisation, each with their own goals. Together they formulate the goals and objective of the organisation. There is a focus on individual persons and their role in the decision-making process and the interaction with other members in a group.

Given the business competencies and the complexity of the business environment, certain strategies are more appropriate. Based on the most appropriate strategy and negotiations within the organisation, management can set goals. These goals are the starting point of the planning process. The goal setting can be top-down or more participative and iterative, given the context of the organisation. To achieve the goals, management has to acquire the right resources and use them in an efficient way.

Organisational ecology and evolutionary theory of organisational change
Organisational ecology and evolutionary theory of organisational change focus on cumulative changes in structural forms of populations of organisational entities across communities or industries (Hannan & Freeman, 1984; Nelson and Winter, 1982; Van de Ven & Poole, 1995). Both theories use concepts and ideas from biology although they use a different perspective. For the process of cumulative adaptation there are two explanations. First, there is an explanation based on Lamarck. In this perspective, there are two principles: the inheritance of acquired characteristics and the principle of use and disuse. The principle of use and disuse states that characteristics that are used will grow larger, the characteristics that are not used will tend to wither away. Characteristics that are acquired can be inherited by future generations.

The second explanation is based on Darwin. In this perspective, individuals vary based on chance. Individuals that better fit the environment have better survival chances. The cumulative selection is not based on change but on fit. The mutations will be passed over time to future individuals. Thus, in the Darwinistic view, there is individual variation (based on chance), natural selection as a result of environmental conditions, and retention of the adaptive characteristics.

In organisational theory, we see two literature streams following the two explanations. The organisational ecology (Hannan and Freeman, 1984) follows a more Darwinistic perspective. In organisational-ecology theory, there is no attention for the internal side of organisations. In the evolutionary theory of organisational change (Nelson and Winter, 1982) the first explanation is used. In this theory, a micro perspective of organisations is used to study the macro development of the population. In the following section, we shall discuss both streams of literature in more depth.

Organisational ecology

In organisational ecology, change proceeds through a continuous cycle of variation, selection, and retention (Douma and Schreuder, 1998)¹. Variations are often viewed to emerge by chance. The selection of organisations occurs through the competition for scarce resources, and the environment selects entities that best fit the resource base of an environment niche. Retention involves forces (including relative inertia) that perpetuate and maintain certain organisational forms. Relative inertia is based on reliability and accountability. Organisations tend to produce more reliably than ad hoc groups of workers, that is organisations produce with less variance in quality of performance. Within organisations, routines will be developed which direct the activities. These routines play an important role in ensuring the reliability. Also, companies can be held more accountable more easily than ad hoc workgroups.

In the theory, selection within the organisational population tends to eliminate organisations with low reliability and accountability. The importance of organisational reliability and accountability requires that organisational structures are highly reproducible. The routines, rules and procedures determine that reliability and accountability must stay in place. This implies that organisations must be inert. Selection pressures will favour organisations whose structures have high inertia.

Thus, organisational ecology explains change as a recurrent, cumulative, and probabilistic progression of variation, selection, and retention of organisational entities. Although one cannot predict which entity will survive or fail, the overall population persists and evolves through time, according to the specified population dynamics. Birth rates, mortality rates and merge rates influence the characteristics of the population. This process is influenced by competition and legitimation. Competition concerns the struggle for scarce resources (within the population and between populations). Legitimation refers to the social 'acceptance' of the organisational form. New forms have low legitimacy. As they perform reliably and accountably over time, they may acquire legitimacy. As a form requires legitimacy, it becomes easier to found organisations of that form. Hence we can expect the founding rate to increase with the age of the form. On the other hand, competition will increase as well, which has a negative effect on the founding rates. Mortality rates are high at first (low legitimacy), then fall (more legitimacy and imitation) and then rise again (competitive effects).

In the organisational-ecology theory, evolution is a continuous and gradual process. The evolution is deterministic, there is no room for deliberate design of the organisational form. There are no great and sudden modifications, selection can act only by short and slow steps. Certain important characteristics are further developed, characteristics that are not important or used, will vanish. Other evolutionists posit a saltation theory of development, such as punctuated equilibrium. Whether change proceeds at gradual versus saltation rates is an empirical matter. A weakness of these models is that these models tend to be rather superficial and the specification of the competitive environ-

¹ In biology, the example of giraffes is often used (Douma and Schreuder, 1998). Evolutionary arguments emphasize cumulative adaptation. Giraffes gradually acquire the long necks and through a long period of time, they adapt to their environment. As a result, they could survive in the competition with other species. Giraffes with longer necks are able to reach leaves that are higher in the trees than giraffes and other animals with shorter necks. As a result of selection, survival and retention of these characteristics, the population of giraffes will gradually evolve in giraffes with longer necks.

ment is left implicit (Nelson and Winter, 1978:527). Also for this study, this perspective is less usable because of the deterministic nature of the theory.

Evolutionary theory of organisational change

The evolutionary theory of organisational change uses a micro perspective to study the macro development. In the micro perspective, routines play an important role. Routines refer to all regular and predictable behaviour patterns of companies. Routines determine for a large part how organisations function. They also explain why organisations are resistant to change. There is training required in order to develop routines. In the course of time, the activities evolve in routines¹. There is tacit knowledge involved. Mutations in the routines occur by chance and by deliberation. For deliberate change of routines, first is sought in the neighbourhood of the existing routines. Changes are only incremental. Via a natural selection process, wherein better routines have a higher survival rate, successful routines will survive. The more successful routines will be imitated, internally and externally². By means of replication and imitation, the relative appearance of the successful routines will increase.

The strategy and structure call for certain capabilities. These capabilities are often rooted in the routines of a company. If a company wants to change its strategy, this often has implications for its structure and capabilities as well. In this process, organisations have to make bigger changes in their routines.

The dialectical theory

The dialectical theory focuses on stability and change based on the (im)balance of power between opposing entities. The dialectical theory begins with the assumption that organisations (or members within organisations) compete with each other for domination and control. This can create a collision between the organisations (thesis and antithesis). The dialectical theory requires at least two distinct organisations that can engage one another in conflict (interaction between organisations). Change is the result of the appearance of opposing views (thesis and antithesis) and the (im)balance of power between the two organisations. Change occurs if an organisation has sufficient power to confront and engage the status quo. If this is not the case, the status quo (or stability) will remain. The bargaining and conflict-management literature focuses on creating a win-win solution in which both organisations are better off than in a continued status-quo position.

The dialectical theory is sometimes used in other theories as well. For example, Greiner (1972) uses the dialectical theory in his lifecycle model to explain the transition from one stage to another. The dialectical theory is used to explain the underlying dynamics of movement.

In dialectical theory, there is no special attention for resources which have a special focus in this study (although conflicts might occur over the possession of and/or access to the critical resources). Part of the arguments of the dialectical theory are also used in the lifecycle theory. Therefore, we shall not use the dialectical theory as a separate theory in this study.

¹ This notion of routines is related with capabilities of the resource-based view of the firm.

² Imitation will not be perfect and will result in comparable but distinct organisations. This will result in innovation and development of the population.

Theoretical support for observed growth patterns

If we look at the results of an earlier EIM study as presented in table 1 and table 2 in this study, we can see that a large group does not have an incremental growth pattern, i.e. a lot of companies fall from a high growth rate to a lower growth rate or vice versa. The pattern is much more diverse and not stable over time (i.e., switchers).

Based on the theories presented above, we can explain the large number of switchers in three ways. Based on the lifecycle theory, we expect a pattern of incremental growth. In the lifecycle model, there are no clear trigger events that explain radical changes in growth rate¹. It also is not clear why or when shifts in resources or stages should occur (Lichtenstein & Brush, 1997). Based on the growth rate (e.g. $\text{sales}_t/\text{sales}_{t-1}$) presented by Kazanjian (1988), we expect fast-growing companies in the growth stage of the lifecycle, normal growers in the conception and development, and the commercialisation stage. Stable and shrinking companies can be expected to be in the stability stage. When using the model of Hanks et al. (1993), we can expect fast-growing companies to be in the expansion stage, normal growers in the start-up and diversification stage, stable companies in the consolidation stage and finally shrinking companies in the decline stage. Companies that go from one stage to another are the companies that switch in table 1 and table 2.

Based on the teleology theory, the growth pattern depends on the ambitions of the company, the goals it set. If a company wants to grow, the firm needs a bundle of resources that are unique in the market and organised in an effective and productive way. When the combination becomes less unique, the company will fall to a normal or stable growth. It is also possible that given a certain bundle of resources there is an optimal size of the company. If that size is reached, a sort of growth ceiling is reached that can only be broken by a trigger event (e.g., new goals). If a trigger event occurs (e.g., new market opportunities, a new technology), the company does not have the 'right' combination of resources anymore. As a result, the company will shrink (if other companies have the right combination of resources) or a period of fast growth will emerge (if the company quickly identifies and acquires the 'right' bundle of resources before competitors do).

3.2 Resources and growth patterns

In each theory of change we discussed, capabilities, skills, resources and resource bundles play an important role. In this section, we shall elaborate on the role of resources in the three change theories discussed in the previous section.

Lifecycle theory and resources

In the lifecycle theory, resources play a role helping the organisation from one phase to the other, with particular emphasis placed on obtaining cash or financial resources, personnel, managerial or leadership talent and in developing organisational systems, procedures or policies in a more formalised manner (Welbourne et al., 1998). Empirical evidence suggests that managers do think in terms of the 'stage' of their company (Eggers et al., 1994). Hanks et al. (1993) found distinct configurations of structural vari-

¹ Possible trigger events could be the crises as identified by Greiner (1972). The crises can be the result of a conflict between thesis and antithesis (dialectical theory). However, the crises are not used to explain a radical change in growth rate but rather the cause that creates the change.

ables that correspond to four theoretically defined stages. The lifecycle theory often uses crises a company faces to identify the points where a company goes from one stage to another. Such a crisis is sometimes called a glass ceiling (Ministerie van Economische Zaken, 1999; Vyakarnam, 1998). In summary, organisational lifecycle models refer to resources as important or conditional to move from one phase to the next. Management should decide which resources are essential to make the step to the next stage and which resources are necessary in that stage. In table 4, several stage models are presented with the mentioned resources per stage. There is no clear picture of the required resources per stage.

table 4 Lifecycle models and resources per stage

<i>Author</i>	<i>Stages</i>	<i>Resources mentioned</i>
Lippitt and Schmidt (1967)	Launch	Risk capital, technology, organisational leadership, reputation
	Survival	Debt financing, people, accounting systems
	Stability	Technology, personal systems, outside alliances
	Pride/reputation	Community alliances, image, management
	Developing uniqueness	Operations systems, money, institutional knowledge
	Contribution to society	Community relations
Gernier (1972)	Growth	Informal systems, new capital, employees, leadership
	Direction	Inventory, accounting systems, organisational structure, knowledge of management
	Delegation	Money, technology, manpower, control systems
	Coordination	Planning, technology, capital, staff, information systems
	Collaboration	Coordination, organisational systems
Churchill and Lewis (1983)	Existence	Owner's ideas, skill and expertise, organisational systems, supplies of raw materials, cash
	Survival	Employees, planning systems, technology information
	Success	Organisational systems, cash, management abilities, planning systems
	Take-off	Money, personnel
	Maturity	Organisational structure, capabilities of management, systems

<i>Author</i>	<i>Stages</i>	<i>Resources mentioned</i>
Scott and Bruce (1987)	Inception	Cash, founder skills, structure, employees
	Survival	Money, administrative systems, management, property, plant equipment
	Growth	Money, managerial systems, expertise
	Expansion	Leadership, property plant and equipment, personnel, external relations
	Maturity	Management of systems, working capital, management

Source: Brush et al., 1997.

Teleology theory and resources

In the teleology theory, there is a focus on the prerequisites for attaining goals. In order to reach its goals, the organisation has to acquire the necessary resources. Because there is no prescribed trajectory development to reach the goals, organisations with the same goals may need different resources. The organisation's environment and availability of resources constrain what the organisation can accomplish. It is the task of the management to acquire the resources they think are necessary to attain their goals.

Also in the evolutionary theory, resources and routines are important. Selection of organisations is based on the competition of scarce resources, and the environment selects organisations that best fit the resource base of an environmental niche. Certain companies have a better fit with the necessary resource base of an environmental niche than other companies do. As with the lifecycle theory, the necessary resources are externally determined in the evolutionary theory (in the lifecycle theory based on stage, in the evolutionary theory based on the resource base of the environmental niche). The evolutionary theory does not say anything about the management of the organisation and how management can influence the selection, i.e. variation is random. However, we can expect that companies that are more able of getting a good fit between their own resource base and the required resources based on the environmental niche will have a bigger change of faster growth (and survival) than other companies do.

The process of resource acquisition is described in the resource-based view of the firm and the literature on entrepreneurial orientation.

3.3 Resource-based view of the firm

As is clear from the discussion above, the different theories use resources to understand and explain growth. Companies have to combine different resources in order to compete successfully in the market. In the lifecycle theory, the resources are prescribed by the stage a company is in. In the teleology theory, the necessary resources are determined by the goals the company pursues. In the evolutionary theory, resources are determined by the resource base that best fits the environmental niche. But how are resources actually related with growth, and are certain combinations of resources necessary for growth? The resource-based view of the firm can help to understand the devel-

opment of a company from a resource perspective. According to the resource-based theory, a firm's strategic advantage is derived through its unique set of competencies and resources. Broadly speaking, five resource categories have been identified:

- Human capital
- Social capital of the entrepreneur or manager
- Physical capital
- Financial capital
- Organisational capital.

These resources are leveraged, developed and deployed in such a way that the 'right' combination of resources is created which provides the firm a competitive advantage. Based on this resource-based view perspective, several researchers have argued that organisational emergence and growth happens in 'spurts', i.e., in very rapid punctuations that transform the company in discontinuous ways (see e.g. Schumpeter, 1959; Lichtenstein & Brush, 1997). This is in line with the teleology theory (different growth goals) and evolutionary theory (punctuated equilibrium). For instance, Maidique and Hayes (1984: 28) found that 'the successful high-technology firm alternates periods of consolidation and continuity with sharp orientations that can lead to dramatic changes in the firm's strategy, structure, controls, and distribution of power followed by a period of consolidation.' Katz (1993) developed a model of punctuated entrepreneurial emergence. In this punctuated growth model, there are several different organisational stages (different stages than the lifecycle stages). In each stage, there is a unique bundle of resources that generates firm-specific capabilities over time. The task of the entrepreneur or manager is to optimally leverage the resources within the firm to expand the firm's capabilities or acquire new resources outside the firm. Theoretically, each cycle of expansion would depend on the right leveraging of resources through re-combination or re-configuration of human, social, physical, organisational and/or financial capital.

There are several triggers that create a revolution or shift in the 'optimal' bundle of resources. These triggers can be internal (completion of specific tasks, 'drop-dead' dates set up by the entrepreneur or the venture's board of directors, new goals, transfer of ownership¹) or external (structural factors of resource dependence or industry-based resources of support, new opportunities resulting in a different resource base for that environmental niche). For the success of the company it is important that these new situations are quickly identified. When such a trigger emerges, the entrepreneur or manager has to react by acquiring the relevant resources. When the 'right' combination of resources is found, a relatively stable period can emerge until the following trigger event occurs. In other words, there are periods of exploration and periods of exploitation² (Van de Bosch et al., 2000). In a period of exploration, flexibility and scope are important; the ability of an organisation to internalise new capabilities and resources and/or a new combination of use of existing resources and capabilities. In a period of exploitation, 'the refinement and extension of existing competencies, technologies and paradigms' (March, 1991:85) are important.

¹ In EIM research (Bangma and Verhoeven, 2001), they found growth spurts in SMEs for each 25-40 years. This might be explained by the new generation of the family that take over the company. The new generation might have new growth ambitions.

² The length of these periods is dependent on the complexity and dynamics of the industry (Van de Bosch et al., 2000).

In the literature on entrepreneurial orientation, this managerial aspect of identifying opportunities, resources and resource acquisition is filled.

3.4 Entrepreneurial orientation

In 1983, Stevenson (as cited by Brown et al., 2001) introduced the term entrepreneurial management. Stevenson defined entrepreneurial management as a set of opportunity-based management practices that can help a company to remain vital and competitive. The entrepreneurial management is not only relevant for the start-up of new firms but also relevant for older companies. Stevenson identified six dimensions of entrepreneurial management: strategic orientation, resource orientation, management structure, reward philosophy, growth orientation and entrepreneurial culture (Brown et al., 2001). Growth orientation has a top priority in entrepreneurial management organizations. As part of this growth orientation, the company is willing to take risk in order to achieve growth.

Entrepreneurial management is closely related with entrepreneurial orientation. Entrepreneurial orientation consists of five dimensions: autonomy, innovativeness, risk taking, proactiveness and competitive aggressiveness (Lumpkin and Dess, 2001). In Zahra and Covin (1995), a positive relationship was found between the entrepreneurial orientation and the financial performance of a company, especially in the long-term. The relationship is especially important for companies in hostile environments. Entrepreneurial orientation also has a positive effect on several dimensions of strategic management, like organisational planning flexibility and control attributes (Barringer and Bleudorn, 1999). In their study on competitiveness, Man et al. (2002) relate the competitive scope, the entrepreneurial competencies and organisational competencies to firm performance. They argue that the entrepreneur has several tasks. First of all, the entrepreneur has to form the competitive scope of the firm. Addressing external factors and their effect on the competitiveness and competitive scope of the company represents the perceived breadth for the firm to act. This perspective suggests that the competitive scope is likely to be affected by the entrepreneur's ability to interpret environmental conditions. Besides interpreting environmental conditions for new business, the entrepreneur also has to obtain the resources that are necessary to pursue the identified opportunities (Brown and Kirchoff, 1997). Therefore, the perception of resource availability and the extent to which the entrepreneur believes they can acquire the resources (self-efficacy) is part of the task of the entrepreneur. A second task of the entrepreneur is related to the internal capabilities of the firm and the entrepreneur. The internal sources of competitiveness are related to resources that are inputs for the production process, and capabilities/competencies that emphasize the tasks for transforming these resources (Grant, 1991). This process of developing resource combinations involves several iterative and sometimes simultaneous steps (Brush et al., 1998):

- specifying or determining which resources are important
- identifying potential resource providers
- attracting resource partners
- engaging resource partners and determining terms of ownership, control or distribution
- allocation or deployment of resources.

The task of creating organisational capabilities and competencies (e.g., planning, organizing, etc.) is seen as one of the functions of an entrepreneur (Gartner and Starr, 1993).

Finally, the entrepreneur has to set goals and take actions for the goal through assessing competitive scope and using organisational capabilities. In other words, the entrepreneur has to link the external environment and the internal firm capabilities. In order to ensure the long-term performance of the company, the entrepreneur must set the direction for the company, and be visionary, strategic and goal-oriented.

3.5 Conclusion

In this chapter, we discussed several theories that give insight in the growth and growth patterns of companies. There are different ways to look at organisational growth and to study it, ranging from abstract to concrete. In this study, we shall focus on a micro level unit of analysis, i.e. we focus on antecedents of organisational growth from a distinct company perspective. When studying growth and growth patterns at a company level, three different organisational-change schools proved to be important to study: lifecycle theory, teleology theory and evolutionary theory of organisational change. In each of these theories, resources play an important role, which might become of use when explaining growth and growth patterns.

When looking at individual companies over time, we can see that the growth rates change over time. Management and management decisions can be very important for achieving growth. In the different stages in the lifecycle theory, for example, companies need different resources. It is the task of the management to identify interesting opportunities and acquire the resources that are necessary to pursue the opportunities. In doing this, an entrepreneurial orientation proved to be very important.

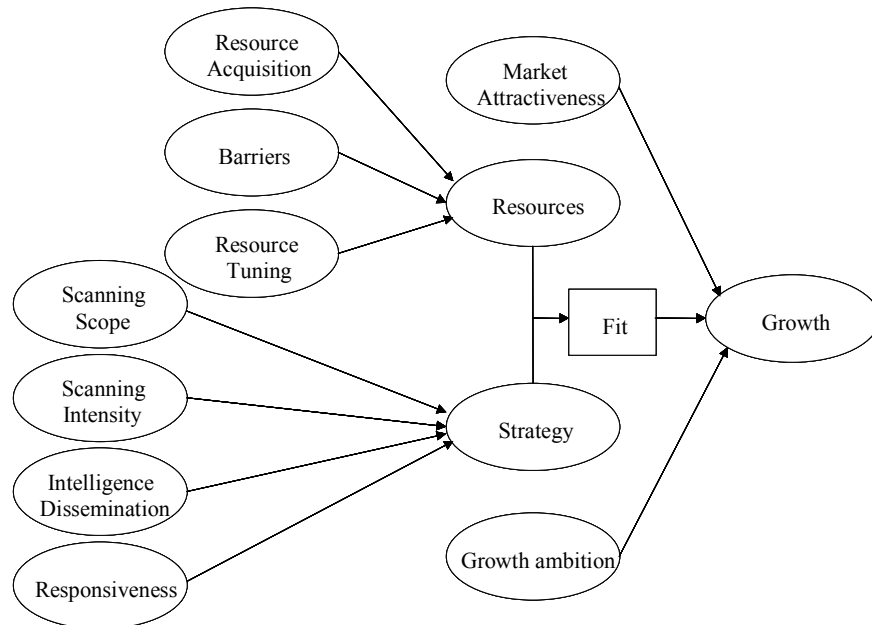
In the next chapter, we shall present a conceptual model that focuses on opportunity recognition, resource acquisition and the relationship between strategy, resources and firm performance. For this model, we shall use insight from the three important organisational-change schools discussed in this chapter.

4 Research model and hypotheses

In this chapter, we shall present our research model and the hypotheses that will be tested in this research project. In the previous chapter, we discussed growth and growth patterns in more general terms. In this chapter, we shall develop a research model that focuses on explaining growth by using company-specific elements that can be influenced by management. This in contrast to, for example, more micro economic growth models.

The research model is to a large extent based on the resource-based view of the firm and literature on entrepreneurial orientation. Also arguments of theories presented in the previous chapter will be used. Broadly, the line of reasoning is as follows. The strategy of a company should be based on identifying opportunities and formulating the correct strategy and operational plans to pursue the opportunities. To be able to do so, the company has to scan the environment, spread the information within the company and react to the possibilities. A company also has to acquire resources that are necessary to pursue the identified opportunities and, therefore, has to acquire the resources and fine-tune the resources for internal use. In acquiring resources, companies can come across barriers. If the strategy fits the resources (or vice versa), this might result in organisational growth. Growth is also influenced by growth ambition and the market attractiveness. In figure 4, the research model is presented. Next, we shall discuss the different hypotheses in more detail.

figure 4 Research model



Source: EIM.

Strategy selection based on environmental scanning and information dissemination

Strategy involves an ongoing search for rent, or above-normal rates of return (Chandler and Hanks, 1994). According to the strategy-formulation theory, the environment and the opportunities therein, determine the correct strategy (Zajac et al., 2000). This concept of strategic fit is rooted in the concept of matching or aligning organisational resources with environmental opportunities and threats. Therefore, in the process of formulating a strategy, environmental scanning is one of the first steps to link the environment to strategy. In the process of environmental scanning, the companies learn about opportunities they may take advantage of and may learn of conditions or events that might harm their performance or survival (Beal, 2000; Barringer and Bleudorn, 1999). In this perspective (design school; Mintzberg, 1990), environmental scanning and analysis are determinants of strategy¹. Especially in a dynamic perspective, frequent scanning is necessary to be able to adapt the strategy that fits the changing environmental conditions (Zajac et al., 2000). If the (dynamic) strategic fit is good, it will at the same time result in good performance. In their study on scanning systems of manufacturing and services firms, Yasai-Ardekani and Nyström (1993; as cited in Beal, 2000) found that firms with effective scanning systems pursuing low-cost strategies scanned their environment more frequently and more broadly than those firms with ineffective scanning systems. Frequent scanning provides a company with current information that allows the company to adapt to changing conditions more rapidly than companies that scan less frequent. By scanning frequently, companies are better able to identify opportunities that might be pursued (Beal, 2000). Especially if growth is one of the objectives, opportunity recognition and, therefore, scanning is very important (SBA, 1999). Also the companies with the effective scanning systems achieve alignment between environment and strategy.

Opportunities can arise from many different sources. Therefore, companies that scan a broad range of different sources are better able to identify the opportunities. For companies that pursue an innovation strategy, a broad scanning behaviour might be even more important than for a company with a low-cost strategy (Barringer and Bleudorn, 1999). Van de Bosch et al. (2000) argue that especially in an exploration strategy (related to an innovation strategy), scanning (frequent and broad) is important as well as a quick response to the identified opportunities. For an exploitation strategy (related to a low-cost strategy), scanning (especially external) might be less important although new insights on process efficiency might come from studying competitors, for example. According to Barringer and Bleudorn (1999), a company that focuses on a low-cost strategy might do less on scanning because of the cost and time involved. Also the need might be lower for such companies because they are often active in a less dynamic environment. For companies with an innovation strategy, a quick response to new developments is essential. Baum et al. (2001) argue that if the CEO has better opportunity-recognition skills, the greater the likelihood that the company will select a low-cost or differentiation/innovation strategy.

Scanning of the environment is not enough to be competitive. The information gathered in the scanning process should be dispersed within the organization (Matsuno and Mentzer, 2000). Sharing information from different aspects might result in better evaluation of all the opportunities and as a result a better and consistent strategy selec-

¹ Jennings and Lumpkin (1992) argue that the competitive strategy also determines the scanning behaviour of the company.

tion. Therefore, the greater the intelligence dissemination throughout the company, the greater the likelihood that the company will select one of the generic strategies instead of a mixed strategy.

A company also has to take action and set goals based on the identified opportunities (Barringer and Bleudorn, 1999; Man et al., 2002). Especially SMEs and companies that pursue a growing strategy, should quickly respond to the opportunities identified. If SMEs and fast-growing companies do not react quickly, the opportunity might be recognized by big companies that can use their market power to annex the market opportunities. The company has to take the initiative in an effort to shape the environment to its own advantage and being adaptive to the competitors' challenges (Lumpkin and Dess, 2001). The result of the responsiveness is that the company more and more has to react to competitors' actions and as a result will sharpen its generic strategy because that is the best way to survive. Therefore, the more responsive a company is to environmental changes and opportunities identified in the scanning process, the more likely the company will formulate a consistent generic strategy.

Based on the previous arguments, we formulate the following hypotheses:

H1a: *The scope of scanning of a company is positively related to the selection of a generic strategy.*

H1b: *The intensity of scanning of a company is positively related to the selection of a generic strategy.*

H1c: *Greater emphasis on intelligence dissemination is positively related to the selection of a generic strategy.*

H1d: *The responsiveness and proactiveness of the company is positively related to the selection of a generic strategy.*

Organisational resources and resource acquisition

From a resource-based view of the firm, companies are comprised of heterogeneous bundles of resources. Resources and their combinations provide the firm's strengths and optimally are a resource of competitive advantage (Barney, 1991; Wernerfelt, 1994). As opposed to industrial organization literature, the resource-based view of the firm takes the point that competencies and capabilities do not merely accrue to a company (from a good fit with industry/environment requirement) but may consciously and systematically be developed by the managers of a company (Lado et al., 1992). Therefore, one of the competencies of management should be to select, acquire and mobilize specialized strategic resources that may yield superior returns relative to competitors. Especially a combination or bundle of resources can create a source of competitive advantage (Mosakowski, 1993). However, over time, some resources have to be re-organised or new resources have to be required (Penrose, 1959; Lichtenstein and Brush, 1997). Therefore, there has to be a continuous process in which entrepreneurs have to make judgements about which resources are more or less important, then acquire those resources that they believe best fit their view of the organization and their particular objective. When the entrepreneur has acquired the resources, he has to establish procedures for their use, i.e. how the resources are deployed in a way that best leads to competitive advantage (Amit and Schoemaker, 1993; Chandler and Hanks, 1994; Lichtenstein and Brush, 1997; Brush et al., 1998). The selection of the resources is influenced by the strategic choices regarding markets and products (Lado et al., 1992). For example, if a company pursues an innovation strategy, the company is dependent on its unique competencies for acquiring and mobilizing specialized resources, i.e. innovative resources and capabilities such as innovative personnel. Resources unrelated to a company's strategy are not likely to be sources of competitive advantage (Mosakowski, 1993). It is important to

notice that there is a difference between resources and capabilities. Resources are basic input into the production process. On their own, however, few resources are productive. Productive activities require the cooperation and coordination of a bundle of resources. A capability is the ability to combine and coordinate a set of resources to perform a certain task (Chandler and Hanks, 1994).

The selection also hinges on ways to use existing resources and the means to acquire them externally or develop additional unique resources (Wernerfelt, 1994). A lack of access to or availability of resources can be seen as one of the most important constraints of companies to achieve their goals, e.g. growth. These potential barriers receive a lot of attention in the literature, especially financial or managerial barriers (Penrose, 1959; Brown and Kirchoff, 1997; Ministerie van Economische Zaken, 1998). Brown and Kirchoff (1997) identified two aspects that influence the acquisition of resources: environmental munificence and acquisition self-efficacy. Environmental munificence refers to the extent to which critical resources exist in the environment. If there are enough resources, it can be expected that a company can acquire the resources that it needs and thus can contribute to growth. Barringer et al. (1997) found that fast-growing companies operate in a more munificent environment than slow-growing companies, suggesting a positive influence of environmental resource opportunities and resource availability on growth. Therefore, if it is easier for a company to acquire resources, these resources will be closely related to the resources needed to pursue the strategy, i.e. the company can acquire a consistent bundle of resources. Acquisition self-efficacy refers to the ability of managers to mobilise the required resources. If the entrepreneur perceives barriers, this will have a negative effect on, for example, growth.

To conclude, this organizing task of gathering and efficiently using resources is seen as a fundamental task of the management of the company (Man et al., 2002). This brings us to the following hypotheses:

- H2a:** *Companies that have no difficulty in acquiring the right resources will have a consistent bundle of resources.*
- H2b:** *Companies that perceive no barriers in acquiring resources will have a consistent bundle of resources.*
- H2c:** *Companies that have no problems with tuning their resources will have a consistent bundle of resources.*

Antecedents of organisational growth

Research on growth of a company has used a wide range of explanatory variables. Some of them concern external factors, other factors are more company-specific factors while still others are more related to people in the company (e.g., managers). In this study, we shall focus on four important aspects: strategy, resource and the fit between the two, growth ambition and market attractiveness.

Strategic fit is a core concept in normative models of strategy formulation, and the pursuit of strategic fit has traditionally been viewed as having desirable performance implications (Zajac et al., 2000). According to Porter (1980), there are three competitive strategies that are alternatives for dealing with environmental forces. Firms that fail to select one of these strategies are doomed to failure. They are 'stuck in the middle'. Firms with a 'stuck in the middle' strategy lack the investment in low-cost structure to compete on price or the focus to achieve differentiation and innovation. There is empirical support for this relationship (see e.g. Baum et al., 2001; Spanos and Lioukas, 2001). Pelham (1999) argued that the emphasis on a growth/differentiation strategy will have a greater impact on small-firm performance than the extent of emphasis on a

low-cost strategy. For this hypothesis, he only found partial support (only for performance measures in profitability and index for firm growth).

Therefore, a company has to select one of the generic strategies in order to outperform those that deploy a combined strategy (Baum et al., 2001). In order to achieve their goals, managers have to be strategic (Man et al., 2002). Therefore, the choice of one of the generic strategies will result in better performance (Mosakowski, 1993). In a meta-analysis on generic strategy-performance relationships, Campbell-Hunt (2000) argued that there is no empirical evidence for the suggested relationship.

'The resource-based view of the firm postulates that performance of a company is ultimately a return to unique assets owned and controlled by a company' (Spanos and Lioukas, 2001). Competencies and superior processes in one or more of the firm's value-chain functions are thought to enable the firm to generate rents from a resource perspective. Especially if a company has a broader range of resource-based capabilities, this might enhance the firm performance (Chandler and Hanks, 1994). Spanos and Lioukas (2001) argue that the more a firm is equipped with resources (bigger available stock of resources), the higher its ability to develop and/or modify its strategy. This is supported in their research. However, resources that are not linked to a certain strategy might be superfluous and not productive. Therefore, a consistent and unique bundle of resources will have a positive effect on the firms' performance. With this bundle of resources, a firm can gain a competitive advantage and hence better performance.

Chandler and Hanks (1994) argued that there is a relationship between the selected strategy and the resources, i.e. the bundle of resources should fit the selected strategy and the companies' performance. For example, a company with a low-cost strategy needs continued access to lower-cost raw materials, low-cost labour and capabilities to combine the different resources in an efficient transformation process. Companies seeking to compete based on innovative products should be able to rapidly take advantage of new opportunities. Such companies need highly creative and innovative employees and have to keep in constant contact with the customers (Bentley, 1990). Companies with certain types of resources vis-à-vis strategies can lead to above average performance (Mosakowski, 1993; Brush et al., 1997). According to Man et al. (2002), the key role of management is to match the resources with the competitive scope/strategy. Together with the setting of goals and taking actions, this adjustment of resources and strategy will have a positive effect on the performance of a company.

The market attractiveness will influence the possibility to grow. If there are a lot of new opportunities in the market, it will be easier for a company to grow (Chandler and Hanks, 1994). Porter (1980) argued that the most attractive target for entry are industries in disequilibrium and where the retaliation of incumbent companies can be expected to be low. When for example product demand is growing rapidly, there can be a lot of opportunities for companies to expand their business. Baum et al. (2001) argue that certain environments are more supportive for organisational growth than other environments. To describe the environment, they use three dimensions: dynamism or environmental predictability, munificence or the ease of obtaining outside resources, and complexity or the concentration or dispersion of organisations. They argue that stable environments and high munificence are positively related with organisational growth. Complex environments may be more difficult for companies to comprehend and, therefore, growth will become more difficult. In their study, they did not find support for this direct effect. Baum et al. (2001) also identified an indirect effect of the environment on performance through the competitive strategy. For example in the

structure - conduct - performance paradigm, the structure of an industry and thereby the environment influences the selection of strategies. This indirect relationship is supported by their data.

In the teleology theory, goal setting and taking actions to achieve these goals is a key driver for organisational change. One of the goals might be growth. In achieving these goals, certain resources might be required. Davidsson (1991) argued that growth motivation/ambition has a positive effect on the actual growth of a company. Growth motivation can be conceived of as based on cognition. He identified three main growth motivations, that is perceived ability, perceived need and perceived opportunities. Based on these aspects, managers will formulate their growth goals. Baum et al. (2002) reported strong effects of growth goals on the business performance. Challenging goals lead to higher business performance (Locke and Latham, 1990). Besides a direct effect of growth goals on performance, Baum et al. (2001) also identified some indirect effects through competitive strategies. Managers choose plans and make decisions (on strategy, for example) in part on the basis of what they are motivated to do (Bird, 1989; Baum et al., 2001).

H3a: *Companies with a focus of one of the generic strategies will have a higher growth rate.*

H3b: *Companies with a consistent resource bundle will have a higher growth rate.*

H3c: *Companies with a better strategy-resource fit will have a higher growth rate.*

H3d: *Companies active in an attractive market will have a higher growth rate.*

H3e: *Companies with a higher growth ambition will have a higher growth rate.*

In this chapter, we discussed our research model and hypotheses. In the next chapter, we shall discuss the research design and our assessment tool.

5 Research design

Despite the importance of resources and resource acquisition, relatively little research investigates how it influences the growth, growth patterns and performance of the company, or the process how the resource bundles are identified by the entrepreneur, and how this process is related with the 'continued entrepreneurship'. The goal of this research is to test the resource-based view of the firm explaining the growth patterns of companies, especially related with the chosen strategy. By doing this, we enhance our knowledge about growth, growth patterns and the importance of strategy and resources for growth.

In this chapter, we shall discuss the research design for this study. We shall focus on high-growth companies to test the model presented in the previous chapter. In section 5.1, we shall discuss the population and research sample of this study. The sample is used to carry out a telephone poll. In section 5.2, the assessment tool is discussed.

5.1 Population and sample

The population in this study consists of fast-growing companies. To select the companies that meet our criteria, we used the CD-ROM Reach of Bureau Bartels. Reach consists of legal entities that are obliged to place their annual report with the Chamber of Commerce. As a result, this implies that only legal entities with 2 or more employees or a balance account total of more than 2 million guilders are included. In the database, almost 75% of the companies that meet the criteria, are included.

In this study, only companies were included that existed in the research period (January 1st 1993 to January 1st 1999). A second criterion to select the companies is that on both dates, the number of employees is given. Of the companies in the database, approximately 45,000 companies have employment data on both periods. Of these companies, the companies with an EIM growth rate of more than 3 in the period 1993-1998 are selected. For the purpose of this study, we are only interested in the sectors mining (BIK-code C), manufacturing (BIK-code D), construction (BIK-code F), retail and wholesale (BIK-code G), and services (BIK-codes I, J, K and O (except 91 and 93)). This resulted in a sample of 773 companies.

In this study, we use a telephone poll. Therefore, we need telephone numbers. Of the 773 companies, there are 109 companies with no telephone number. We only selected companies with 20 or more employees. One can expect that these companies think more about strategy, resources and resource bundles, the subject of this study. Of the selected companies, 63 companies have less than 20 employees. This resulted in a sample of 601 companies that are included in the sample that are used to contact. In table 5, a summary of the selection process from population to research sample is given.

table 5 From population to research sample

	<i>Number of companies</i>
Companies that have to place their annual report	± 171,000
Companies in Reach database	± 125,000
Companies with data over 6 years	± 55,000
Fast-growing companies in selected sectors	773
Fast-growing companies with telephone number	664
Fast-growing companies >20 employees	601
Research sample	601

Source: EIM.

In the telephonic interview phase, 587 addresses of the 601 potential addresses were used. This resulted in 208 completed interviews, a response rate of 35%. There were 316 companies that refused to cooperate, could not be reached (wrong telephone number, address) or were liquidated. With 116 companies an appointment was made for an interview outside the data-collection period.

The interviews were held with persons who are involved in the strategic process. Often, the chief executive officer or financial manager/controller was interviewed.

5.2 Measurement

In this study, we used a telephone poll to collect the data. For developing the questionnaire, we used several assessment tools that were used in other studies. In this section, we shall discuss the assessment tools.

Market attractiveness

Market attractiveness is defined as a perception of the task environment the company is active in. It focuses on the position in which an individual company finds itself when interacting with its customers, suppliers, competitors and regulators. Market attractiveness is based on the scale used in Chandler and Hanks (1994). They identify three dimensions of market attractiveness: the growth of the customer base, the heterogeneity of direct competing products and the intensity of competition. They used six items that were ranked on a 7-point Likert-type scale. The coefficient alpha for the scale in their study was 0.76. In our study, we used four items, capturing the three dimensions. The respondents could rate the statements on a 10-point scale ranging from totally disagree to totally agree.

Scanning scope

The concept of the scope of environmental scanning refers to how broadly managers scan their environment. The scale we used in our study is based on Beal (2000). Beal identified five factors of the task environment (competitors, customers, suppliers, technology and the firm itself) and several factors of the general environment (economic, social and political conditions). The initial scale consists of 28 items that the respondents were asked to answer 'Yes' or 'No' as to whether they used a certain type of information in determining how to compete in major markets. After factor analysis, five factors remain: customer and competitor information (8 items, Cronbach alpha = 0.78),

supplier information (3 items, Cronbach alpha = 0.66), company (internal) capabilities and resource information (5 items, Cronbach alpha = 0.81), social and political information (6 items, Cronbach alpha = 0.79) and economic conditions (3 items, Cronbach alpha = 0.79). In this study, we used 13 items that capture the afore-mentioned factors. The respondents were asked to answer 'yes or no' as to whether they used the particular aspect to determine how to compete in the market.

Scanning intensity

Scanning intensity is defined as the extent of effort dedicated towards environmental scanning and the comprehensiveness of the environmental scanning process. Barringer and Bleudorn (1999) developed a 12-item scale for scanning intensity. They used a 7-point scale (not ever used - used frequently). The intensity scale comprises two dimensions, efforts dedicated to scanning and comprehensiveness of scanning. The Cronbach alpha of the scale is 0.83. In our study, we used four items of the first dimension, efforts dedicated to scanning. We formulated an extra item to capture scanning of the internal processes. The respondents were asked to rate the statements on a 4-point scale from never to continuously.

Intelligence dissemination

Intelligence dissemination refers to the dispersion of information throughout the organization. The intelligence dissemination scale is based on the intelligence-dissemination dimension of the market-orientation scale as discussed by Matsuno and Mentzer (2000). They ended up with a 6-item scale for intelligence dissemination. The reliability (Cronbach alpha) of this scale is 0.78. In our study, we used two items of the original scale and included a new one. This new item captures the intelligence dissemination of internal aspects. We used a 10-point scale (totally disagree to totally agree).

Responsiveness

Responsiveness refers to the extent to which a company responds to market information and actually implements the responses. The responsiveness scale is also based on Matsuno and Mentzer (2000). In their study, this scale consists of 8 items with a reliability of 0.74. In this study, we used three items and added a new one. The new item captures the responsiveness to technological development. We used a 10-point scale (totally disagree to totally agree).

Strategy

Porter (1980) described three generic strategies, an innovation/differentiation strategy, a focus/quality strategy and a low-cost strategy. In Chandler and Hanks (1994), they developed a scale for the three competitive strategies (7-points Likert-type scales). Innovation in product development and marketing as a competitive strategy was measured by three items (Cronbach alpha is 0.70). The second strategy was a quality strategy and was measured by five items (Cronbach alpha is 0.78). The low-cost strategy was measured by a 3-item scale (Cronbach alpha is 0.73). In our study, we based our strategy scale on Chandler and Hanks (1994) and used six items, for each strategy two items. The respondents could answer based on a 10-point scale (totally disagree to totally agree).

Resources

The respondents were asked to rate a set of resource-based capabilities and resources and their position compared to their competitors (5-point Likert-type of scale, much better than competitors - much worse than competitors). The scale is based upon Chandler and Hanks (1994). The resources and capabilities are supportive for the three

competitive strategies, innovation, quality and low-cost. In the study of Chandler and Hanks, the resources that support the innovation strategy consist of 6 items and had a Cronbach alpha of 0.89. The resources that are supportive for quality consist of 5 items with a Cronbach alpha of 0.82. The resources that support the low-cost strategy are measured by 7 items with a Cronbach alpha of 0.83. In this study, we included six items, for each strategy two items. A company has a consistent resource bundle if the company rates high on, for example, the innovation-related resources and low on the other resources, etc.

Barriers

Companies can experience barriers in acquiring the right resources. In this study, we asked the respondents if they experience difficulties by acquiring seven different resources. This is a newly developed scale. The resources are qualified personnel, finance, technologies, production facilities, setting up efficient organisational structure, management skills and getting access to relevant networks. The respondents could rank on a 4-point scale ranging from 'with much difficulty' to 'with no difficulty'.

Resource tuning

Resource tuning refers to the extent organizations succeed in optimising the use of different resources. We developed a new scale. We asked the respondent two questions to measure the ability of the company to tune the resources. The respondent could rate these questions on a 10-point Likert-type scale (totally disagree to totally agree).

Resource acquisition

Resource acquisition was measured by a single item. We asked the respondents if they perceive difficulties in acquiring the resources necessary to perform their strategy. The respondents could rate these questions on a 10-point Likert-type scale (totally disagree to totally agree).

Growth ambition

In the questionnaire we asked the respondents for their growth ambition in terms of employees and turnover. They were asked for the growth ambition as a percentage of growth for the coming three years.

Growth

Growth is our dependent variable. We measure growth in different ways, in terms of employees and turnover. We also asked for the growth pattern (increase in growth, stable growth or slowdown in growth) and the percentage of growth over the past five years. Finally, we asked how the growth is realized, by means of autonomous growth versus growth by merger/acquisition.

Control variables

We asked three different control variables, the number of employees, the sector (manufacturing, wholesale and retail, and services) and if the establishment is part of a larger company.

In this chapter, we have discussed the research design of this study. We contacted managers of high-growth companies by telephone to ask aspects about their growth and business policy. With this information, we are able to test our research model. In the next chapter, some general characteristics of the research sample are discussed as well as the validity of the assessment tool.

6 Empirical results: characteristics of the research sample

In this chapter, we shall start with the empirical part of this study. First, we shall describe the representativeness of the sample. Therefore, we compare the companies of the research sample that participated in our telephonic questionnaire with the companies that refused to participate. Second, we shall discuss several characteristics of the research sample. We shall discuss issues like sector, firm size, and growth characteristics (employment and turnover). Finally, we shall discuss the reliability of our assessment tool. This discussion on the reliability of the assessment tool will be the starting point for the hypotheses testing in the next chapter.

6.1 Representativeness of the sample

The total research sample consists of 601 companies. In total, 208 companies responded, a response rate of almost 35%. Based on the information in the Reach database, we can test the representativeness of our respondents compared to the research sample (companies that did not respond). We have information about the number of employees in 1993 and 1998 and the turnover in 1998. In table 6, the results of the test are presented. Although the non-respondents seem to be somewhat smaller on each of these three criteria, the respondents did not significantly differ from non-respondents. We can conclude that there is no selection bias. Also, there are no significant differences between respondents and non-respondents concerning the sector they are active in¹.

table 6 Representativeness of sample

		<i>Respondents</i>	<i>Non-respondents</i>	<i>Significance level (p-value)</i>
1993	Average number of employees	348	212	0.24
	n	206	395	
1998	Average number of employees	889	526	0.19
	n	206	395	
Gross turnover over 1998	Average turnover	421,400	378,454	0.79
	n	177	327	

Source: EIM.

¹ Based on percentages, there seem to be more respondents in the retail and wholesale than in the services sector, however the differences are not significant.

6.2 General characteristics of the research sample

In this section, we shall discuss the general characteristics of the research sample. We shall have a look at the sectors, size and growth pattern.

Sector

In the questionnaire, we asked for the sector the company is active in. We used three classes, manufacturing/mining/construction, wholesale and retail, and services. In table 7, we present the distribution over the three classes.

table 7 Sector

	<i>Number of companies</i>
Manufacturing/mining/construction	83
Wholesale and retail	59
Services	66

Source: EIM.

Size

In this study, we measure size based on number of employees. In the questionnaire as well as the Reach database we have information on size. In table 8, the number of employees of both sources is presented. Based on the questionnaire results, the smallest company has 3 employees, the biggest company 24,000. Based on Reach (1998), this is respectively 20 and 36,625 employees¹.

table 8 Size of the companies (employment)

<i>Number of employees</i>	<i>Employment (questionnaire)</i>	<i>Employment 1998 (Reach)</i>
<20	10	-
20 - <50	27	47
50 - <100	42	56
100 - <250	69	42
250 - <1.000	37	34
≥1.000	23	29

Source: EIM.

Growth

Growth can be captured in different ways. In this study, we asked for growth in employment and turnover. We also asked if the growth is based on autonomous growth or growth by way of merger/acquisition and the pattern of the growth rate (increasing versus decreasing).

Employment growth

Based on the employment growth (EIM growth index ≥ 3 in the period 1993-1998), companies were selected. In table 9, the EIM growth index figures are presented. Most

¹ The differences between the two sources might be the result of consolidation of subsidiaries in the Reach database.

companies have an EIM growth rate of less than 10. This corresponds to an annual growth of about 25%.

table 9 EIM growth index (Reach)

<i>EIM growth index</i>	<i>Number of companies</i>
3 - <5	71
5 - <7.5	34
7.5 - <10	22
10 - <20	31
20 - <50	19
50 - <100	16
≥100	15

Source: EIM.

Based on the questionnaire, we come to the following insights. Of the 203 companies that answered the question, 19 companies showed declining employment (more than 5% decline). This implies that these companies did not continue the growth rate of the period 1993-1998, and even declined. This is consistent with the findings presented in table 1 and table 2. 28 companies stayed more or less the same (growth rate –5 to 5%) and 55 companies had a growth rate of 5 to 25%. A total of 101 companies had a growth rate of more than 25% (fast-growers that continued their fast growth). Of the companies that have a clear growth or decline of employment, most of the growth is realised by autonomous growth, i.e. more than 50% of the growth (or decline) is done without acquisition or casting of business (see table 10).

table 10 Form of growth

	<i>Autonomous</i>	<i>Merger/acquisition/casting of business</i>	<i>Total</i>
Shrinking (≤5%)	12	6	18
Normal growth (5-25%)	43	11	54
Fast-growing (>25%)	81	17	95
Total	136	34	170

Source: EIM.

Finally, we asked for the development of the growth rate, is it increasing, stable or declining. Of the companies that have a clear growth or decline in employment (181 companies), 116 companies responded that the growth rate has increased the last years (or decline rate declined), 41 companies responded that the growth rate was stable over time and 24 companies responded that the growth rate declined (or the decline rate increased). In table 11, the growth-rate development is combined with the growth classes. It is clear that shrinking companies have relatively a more declining growth pattern, i.e. the decline rate became smaller (e.g. from -10 to 5% a year). For growing companies, the growth rate is increasing over the years.

table 11 Development of employment growth

	<i>Development of growth rate</i>			<i>Total</i>
	<i>Increasing</i>	<i>Stable</i>	<i>Decline</i>	
Shrinking (≤5%)	2	4	13	19
Normal growth (5-25%)	32	21	2	55
Fast-growing (>25%)	78	15	8	101
Total	112	40	23	176

Source: EIM.

We also asked for the growth ambition for the coming three years. Most companies (97) pursue growth in employment, from 5 to 200% for the coming three years. A relatively big number of companies (71) want to remain the same, whereas 32 companies want to lower the number of employees (from 2 to 50% decline).

Turnover

Based on the questionnaire, we know the following about the turnover. In terms of turnover, 13 companies are shrinking (declining more than 5%), 14 companies remain more or less the same (growth rate of -5 to 5%), 54 companies have a moderate growth rate (5-25%) and 120 companies have a growth rate of more than 25%. In table 12, the turnover growth rate is compared with the form of growth. Most growth is realised by autonomous growth (more than 50% of the growth/decline is autonomous).

table 12 Form of growth (turnover)

	<i>Autonomous</i>	<i>Merger/acquisition/casting</i>	<i>Total</i>
		<i>of business</i>	
Shrinking (≤5%)	9	3	12
Normal growth (5-25%)	44	7	51
Fast-growing (>25%)	100	19	119
Total	153	29	182

Source: EIM.

In terms of turnover, 119 companies have a increasing development of the growth rate, for 52 companies the growth rate is relatively stable and for 21 companies the growth rate declined over time. In table 13, the growth rate is compared with the growth classes. It is clear that shrinking companies have relatively a more declining growth pattern, i.e. the decline rate became smaller (e.g. from -10% to 5% a year). For growing companies, the growth rate is increasing over the years.

table 13 Development of turnover growth

	<i>Development of growth rate</i>			<i>Total</i>
	<i>Increasing</i>	<i>Stable</i>	<i>Decline</i>	
Shrinking ($\leq 5\%$)	2	2	9	13
Normal growth (5-25%)	23	25	5	53
Fast-growing ($> 25\%$)	90	24	6	120
Total	115	51	20	187

Source: EIM.

The growth ambition in terms of turnover differs from the ambition in terms of employees. In total, 177 companies indicated that they pursue growth in terms of turnover in the coming three years (from 4 to 800%). Only 15 companies want to remain the same in terms of turnover and 1 company wants to decline (30%).

Growth in employment and turnover compared

Growth is measured by two different indicators, employment and turnover. In this section, we shall compare these two indicators.

In table 14, the growth pattern is in employment, and turnover is combined. Generally speaking, the growth pattern in employment and turnover showed a similar pattern. The values on the diagonal are the highest. Above the diagonal implies that labour productivity increases, below the diagonal that labour productivity decreases.

table 14 Growth pattern employment and turnover

<i>Growth pattern employment</i>	<i>Growth pattern turnover</i>			
	<i>Shrinking</i>	<i>Stable</i>	<i>Normal growth</i>	<i>Fast-growth</i>
Shrinking	13	4	2	
Stable		8	15	5
Normal growth			28	26
Fast-growth		2	9	88

Source: EIM.

In table 15, the development of the growth rate in employment and turnover is presented. Also here, we found that generally speaking, the development of the growth rate in employment and turnover showed a similar pattern (highest value on the diagonal). The value above the diagonal implies that productivity will decrease, below the diagonal that labour productivity will increase.

table 15 Development growth rate employment and turnover

<i>Development growth rate employment</i>	<i>Development growth rate turnover</i>		
	<i>Increased</i>	<i>Stable</i>	<i>Declined</i>
Increased	102	5	4
Stable	11	30	3
Declined	1	2	15

Source: EIM.

6.3 Reliability of the assessment tool

In this section, we shall discuss the reliability of our assessment tool. We shall start with describing the test procedure, than we shall discuss the results.

6.3.1 *Assessing reliability*

In assessing the reliability of our assessment tool, we follow the procedure as described by Anderson and Gerbin (1988) and Steenkamp and Van Trijp (1991). First, an exploratory factor analysis is done to test for the dimensionality of the concept. Second, we looked at the item-total correlation. The third step is to do a confirmatory factor analysis.

The exploratory factor analysis tests if the items are loading on one factor. If necessary, the number of items can be reduced by selecting only high-factor loading items. In evaluating the exploratory factor analysis results, we looked at the total explained variance (>0.50), the factor loading (>0.30) and the measure of sampling adequacy (>0.50) (Hair et al., 1995; De Jong, 1999; Kemp, 1999). We used three criteria to decide on the number of factors, the eigen value of one or more, the screenplot and the theoretical number of dimensions.

Item-total correlation is the correlation between one item and the rest of the items of the construct. Threshold values for the item-total correlation range from 0.3 (Heide and John, 1988:30) to 0.6 (Steenkamp and Van Trijp, 1991: 228). In this study, we used the threshold value of 0.30. Items with a value lower than 0.30 do not share enough variance with the rest of the items and will result in a low reliability of the construct.

The third step is the confirmatory factor analysis (CFA). CFA can be used to test the unidimensionality of the scale. The analysis is directed at examining whether the empirical data can confirm the theoretical model specified ex ante. Based on the measurement scale of the observed variables (mostly ordinal), we used the polychoric correlation matrix as input for our CFA analysis. We used Maximum Likelihood as estimation procedure. In order to evaluate the 'goodness' of the theoretical model, several criteria can be used (Steenkamp and Van Trijp, 1991; Hair et al., 1995; Jöreskog and Sörbom, 1996). Broadly speaking, there are two ways to evaluate the model, i.e. the overall model fit and parameter estimates. In this study, we looked at the significance of the chi-square (should be nonsignificant), the Root Mean square Residual (RMR <0.08), the Goodness of Fit Index (GFI >0.90) and the NonNormed Fit Index/Tucker-Lewis Index (NNFI >0.90) (see e.g. Anderson and Gerbing, 1984; Bagozzi and Yi, 1988; Marsch et al., 1988; Steenkamp and Van Trijp, 1991; and Hair et al., 1995).

Once the overall model fit is evaluated, the estimators of the individual indicators (items) can be evaluated. In evaluating the individual indicators, four criteria will be used: variance extracted, reliability of the construct, the standardised residuals and the factor loadings (validity of the item).

First, validity involves the question of whether a variable measures what it is supposed to measure (Churchill, 1995). The variance-extracted measure reflects the overall amount of variance in the indicators accounted for by the latent construct. Higher variance-extracted values occur when the indicators are truly representative of the latent construct. The composite validity or the variance extracted can be calculated as follows: $E(\lambda_i^2)/(E(\lambda_i^2) + E\delta)$. As a threshold value, 0.50 is recommended (Hair et al., 1995).

In Lisrel, the composite reliability of an indicator is defined as the degree to which the construct indicators ‘indicate’ the common latent (unobserved) construct (the Lisrel measure is comparable with Cronbach alpha). More reliable measures provide a greater confidence that the individual indicators are all consistent with their measurements. A commonly used threshold value for acceptable reliability is 0.70, although this is not an absolute standard, and values below 0.70 have been deemed acceptable as well (e.g., De Jong (1999) uses a value of 0.50). In this study, we use a threshold value of 0.60. The standardized residuals consist of the difference between the theoretical and empirical matrices. The standardized residuals should not exceed |2.58| (Steenkamp and Van Trijp, 1991). Standardised residuals exceeding the value of |2.58| indicate misspecification. The standardised residuals should be used with caution. They are calculated under the assumption of multivariate normality, and will be biased when the data violate this assumption.

A final indicator of the individual indicators is the λ_{ij} of each indicator. The validity of an indicator is the λ_{ij} , i.e. the size of the direct relationship between one latent variable and one item (Anderson and Gerbing, 1988). It is recommended that the standardized λ of each indicator to be equal or higher than 0.30 (De Jong, 1999). The loading of each indicator should also be significant. In this study, we used a threshold t-value of at least 2. In table 16, we summarised the criteria we used to evaluate the assessment tool.

table 16 Summary evaluation criteria assessment tool

Exploratory factor analysis	Total explained variance ≥ 0.50 Factor loading ≥ 0.30 Measure of sampling adequacy (total and item) ≥ 0.50
Item-total correlation	≥ 0.30
Confirmatory factor analysis	
Overall fit	Chi-square nonsignificant RMR ≤ 0.08 GFI ≥ 0.90 NNFI ≥ 0.90
Indicator fit	Variance extracted ≥ 0.50 Reliability ≥ 0.60 Standardised residuals $\leq 2.54 $ $\lambda \geq 0.30$ t value $\lambda \geq 2$

Source: EIM.

6.3.2 Assessing the reliability of the assessment tool

In evaluating the assessment tool, the exploratory factor analysis and the item-total correlation are the first step and the prerequisite for the CFA. In most cases, the results of these two steps satisfy the criteria. If the criteria are not satisfied, the problems will come to the fore in the CFA as well. We, therefore, only present the CFA results. In table 17, the results of the Lisrel test of the reliability of the assessment tool are summarized. Below, we shall discuss each concept in more detail.

The CFA overall fit showed good results. Most CFA analyses resulted in solutions that meet our criteria as presented before (or at least partly on the four criteria). Only for the variable Scanning scope, the Lisrel results were poor. This has probably to do with the measurement characteristics of this variable. Scanning scope should perhaps be classi-

fied as a causal indicator model (see, e.g., Kemp, 1999), although the original scale was analysed as an effect-indicator model. No acceptable overall fit could be established. The indicator fit showed a different picture. The reliability of the concepts, however, showed some poor results. Only three concepts satisfied our criteria, Market attractiveness (dimension: growth customer base), Resource tuning and Growth development. Responsiveness only partly satisfied our criteria.

table 17 Summary reliability and validity assessment tool

<i>Concept</i>	<i>Dimension</i>	<i>Number items</i>	<i>Variance extracted</i>	<i>Reliability</i>	<i>Lisrel result</i>
Market attractiveness	Growth customer base	2	0.59	0.73	
	Competing products	1	n.a.	n.a.	
	Competition intensity	1	n.a.	n.a.	t value $\lambda < 2$
	Second-order factor		0.21	0.43	$\chi^2 = 0.39$ (d.f. = 1), P=.54, RMR=.01, GFI=1.00, NNFI=1.05
Scanning scope	Internal capabilities	2	-	-	No acceptable Lisrel solution
	Social, economic and political situation	4	-	-	
	Technological	2	-	-	
	Customers	2	-	-	
	Competitors	1	n.a.	n.a.	
Scanning intensity	Customers and internal	2	0.32	0.42	
	External	3	0.32	0.56	
					$\chi^2 = 1.27$ (d.f. = 3), P=.74, RMR=.02, GFI=1.00, NNFI=1.08
Intelligence dissemination		3	0.34	0.60	$\chi^2 = 11.46$ (d.f. = 7), P=.12, RMR=.03, GFI=.98, NNFI=.97 (together with responsiveness)

<i>Concept</i>	<i>Dimension</i>	<i>Number items</i>	<i>Variance extracted</i>	<i>Reliability</i>	<i>Lisrel result</i>
Responsiveness		3	0.44	0.70	$\chi^2 = 11.46$ (d.f. = 7), P=.12, RMR=.03, GFI=.98, NNFI=.97 (together with intell. dissemination)
Strategy	Innovation	3	0.39	0.64	
	Low-cost	3	0.40	0.66	
	Second-order factor		0.46	0.63	$\chi^2 = 25.35$ (d.f. = 7), P=.00, RMR=.07, GFI=.96, NNFI=.86
Resources	Innovation	2	0.46	0.63	
	Low cost	2	0.46	0.59	
					$\chi^2 = 2.99$ (d.f. = 1), P=.08, RMR=.03, GFI=.99, NNFI=.85
Barriers	Barriers person	3	0.46	0.66	
	Barriers resources	4	0.22	0.52	
	Barriers organisation	1	N.A.	N.A.	
	Second-order factor	7 (one overlapping item)	0.30	0.55	$\chi^2 = 20.08$ (d.f. = 12), P=.07, RMR=.05, GFI = .97, NNFI = .90
Resource tuning		2	0.56	0.71	$\chi^2 = 11.27$ (d.f. = 7), P=.13, RMR=.03, GFI=.98, NNFI=.98 (together with growth development and growth ambition)

<i>Concept</i>	<i>Dimension</i>	<i>Number items</i>	<i>Variance extracted</i>	<i>Reliability</i>	<i>Lisrel result</i>
Growth ambition		2	0.47	0.63	$\chi^2 = 11.27$ (d.f. = 7), $P = .13$, RMR = .03, GFI = .98, NNFI = .98 (together with resource tuning and growth development)
Growth development		2	0.87	0.93	$\chi^2 = 11.27$ (d.f. = 7), $P = .13$, RMR = .03, GFI = .98, NNFI = .98 (together with resource tuning and growth ambition)

Source: EIM.

Market attractiveness

Market attractiveness consists of three dimensions. For the dimension growth customer base, we used two items, for heterogeneity of direct competing product and the intensity of competition, we used one item. The exploratory factor analysis and item-total correlation criteria were met for the growth customer-base dimension. For the other two dimensions, the criteria are not applicable. In Lisrel, a second-order factor analysis was performed. The CFA showed good overall fit results. However, the indicator fit indices of the second-order factor analysis were not good. Therefore, we decided to use only the growth customer-base dimension in the analysis.

Scanning scope

After a few iterations and deletion of two items (external means and sales skills), an acceptable EFA resulted in five factors. These factors are comparable with the factors identified by Beal (2000), i.e. internal capabilities, economic, social and political conditions (including labour), technology, customers and competitors. The factor suppliers was not found. Several item-total correlations were below our threshold value. Also the CFA did not result in a satisfactory result. This probably has to do with the measurement characteristics of this variable. Scanning scope should perhaps be classified as a causal indicator scale (see, e.g., Kemp, 1999), although the original scale was analysed as an effect-indicator scale. In this study, we constructed the scanning-scope index by summing the number of factors used by the respondent. If the respondent indicated that he used 7 of the 13 types of information listed, he received a score of 7. This is similar to the method used by Beal.

Scanning intensity

The EFA resulted in two factors, one factor focussing on internal and customer aspects and the second factor on external aspects. The overall EFA criteria were met. The item-

total correlation criteria were not met, some item-total correlations were below 0.3. The CFA overall fit for the two factors met our criteria. There was, however, no adequate overall fit for a second-order factor model. Although the variance extracted and reliability are below our threshold values, we employed the two distinct dimensions of scanning intensity in the rest of the study.

Intelligence dissemination

The intelligence-dissemination scale satisfied our EFA and item-total correlation criteria. Also the CFA overall fit was good. The variance extracted was somewhat below our threshold value. In this study, we employed the three item-scale.

Responsiveness

Responsiveness was measured by four items. In the EFA and item-total correlation evaluation, we deleted one item. With the three remaining items, the criteria of the EFA and item-total correlation were met. The CFA should result in an adequate overall and indicator fit.

Strategy

The strategy of a company was measured by six items, for each of the three possible strategies two items. Based on the eigen-value criterion (>1) in the EFA, we developed two strategies, an innovation strategy and a low-cost strategy. This is in line with previous findings on generic strategies, which indicate that strategies do not necessarily have to be distinct. There is some evidence that some strategies are not mutually exclusive (see e.g. the discussion in Chandler and Hanks, 1994: 338-339, and Campbell-Hunt, 2000). The two strategies proved to meet our EFA and item-total correlation criteria. Also the second-order CFA resulted in good overall model fit and indicator fit.

Resources

For the resources, we found the same structure as for the strategy. After the EFA and item-total correlation procedure, we came up with two factors (after deleting two items). The first factor measures resources that are supportive for an innovation strategy, the second factor measures resources that are supportive for a low-cost strategy. The CFA supported the EFA and item-total correlation results. In the rest of the study, we use the two types of resources, innovation and low-cost resources.

Barriers

EFA resulted in three factors which can be interpreted as barriers based on personnel, resources and internal organisation. The item-total correlation of some items was below our threshold value. In the second-order CFA, the findings of the EFA were supported (although it proved that the item 'access to relevant networks' loaded on two factors, personnel and resources). The overall fit was good, the indicator fit was somewhat below our threshold values. In the rest of the study, we use the second-order factor.

Resource tuning

Resource tuning was measured by two items. The EFA and item-total correlation criteria were met. Also the CFA resulted in a good overall and indicator fit.

Resource acquisition

Resource acquisition is measured by one item. Therefore, the reliability evaluation is not applicable.

Growth ambition

The growth ambition of a company is measured in terms of employees and turnover. EFA resulted in one factor, which met our criteria. Also the item-total correlation criterion was met. Finally, the CFA showed good overall and indicator fit.

Growth

Finally, we measure growth based on two items, the growth in terms of employees and in terms of turnover. In this indicator, we used the percentage of growth. Growth in employees and turnover was highly correlated (see also table 15). All our reliability criteria were met.

Control variables

The control variables were all measured by single items. Therefore, the reliability evaluation is not applicable. In the regression analysis, we took the log of the number of employees. The sector was included by means of two dummies (effect coding). This implies that the regression coefficient for the dummy variables represents differences from any group from the mean of all groups. The subsidiary variable is also included as dummy (effect coding). The effect coding implies that the regression coefficient represents a deviation of the comparison group (in this study, no subsidiary).

7 Empirical results: hypotheses testing

In this section, we discuss the results of the hypotheses testing. We shall use general OLS regression. In section 7.1, we discuss the results of the hypotheses on antecedents of strategy and in section 7.2 the results of the hypotheses on antecedents of resources. In section 7.3, we shall discuss the hypothesis concerning the growth. Finally, in section 7.4, we shall draw conclusions and discuss the results. In the analysis, we shall use three controlling variables, size (ln employment), sector and subsidiary/autonomous firm¹.

7.1 Strategy

In our model, the strategy of a company is influenced by four determinants: scanning scope, scanning intensity, intelligence dissemination and responsiveness. As a result of the reliability analysis, scanning intensity will have two determinants, a customer/internal dimension and an external dimension. In table 18, the correlations are presented.

¹ The sample we use in the regression analyses consists of companies with different growth rates. In the period 1993-1998, they were all fast-growing companies. Some companies are still fast-growing companies, others have a lower growth rate or even decline (see also table 9 and table 10). The differences in growth rate allow us to test the model. If all companies are fast-growing companies in 2001 as well, we are not able to test the model, i.e. we theoretically expect that these fast-growing companies have, for example, a good strategy-resource fit. We theoretically expect that companies with a low-growth rate do not have a good strategy-resource fit.

table 18 Correlation variables influencing strategy

	<i>Innovation strategy</i>	<i>Low-cost strategy</i>	<i>Scanning scope</i>	<i>Scanning intensity (customer/internal)</i>	<i>Scanning intensity (external)</i>	<i>Intelligence dissemination</i>	<i>Responsiveness</i>	<i>Dummy subsidiary</i>	<i>Dummy 1 sector</i>	<i>Dummy 2 sector</i>	<i>Size (in employment)</i>
Innovation strategy	1										
Low-cost strategy	.24**	1									
Scanning scope	.16 [†]	.18 [†]	1								
Scanning intensity (customer/internal)	.30**	.18 [†]	.25**	1							
Scanning intensity (external)	.01	.12	.15 [†]	.16 [†]	1						
Intelligence dissemination	.31**	.30**	.22**	.41**	.22**	1					
Responsiveness	.24**	.26**	.13	.22**	.24**	.53**	1				
Dummy subsidiary	.15 [†]	-.01	-.00	.21**	-.03	.08	-.17 [†]	1			
Dummy 1 sector	.02	.04	-.10	-.20**	-.08	-.19 [†]	-.08	.00	1		
Dummy 2 sector	-.13	.04	-.07	-.11	.00	-.09	.03	-.00	.49**	1	
Size (ln employment)	.02	.06	.20**	.21**	.11	.00	-.13	.04	-.16 [†]	-.21**	1

* $p < .05$, ** $p < .01$.

Source: EIM.

We expect that all five determinants will have a positive effect on the selection of a generic strategy. We perform two regressions, one for the extent to which a company follows an innovation strategy, the other to the extent the company follows a low-cost strategy. In table 19, the results of the regression are presented.

table 19 Regression results hypotheses strategy^a

	<i>Innovation strategy</i>	<i>Low-cost strategy</i>
H1a Scanning scope	.07	.11
H1b Scanning intensity (customers/internal)	.20**	.05
H1b Scanning intensity (external)	-.07	.03
H1c Intelligence dissemination	.15*	.19**
H1d Responsiveness	.16**	.14
Dummy subsidiary	.12*	-.01
Dummy 1 sector	.18**	.07
Dummy 2 sector	-.20**	.10
Size (ln employment)	-.03	.07
R ²	.20	.13
F value	F (9,184)=4.99***	F (9,186)=3.17***

^a Standardized values; * $p < .10$, ** $p < .05$, *** $p < .01$.

Source: EIM.

The regression showed partial support for our hypotheses. Concerning scanning intensity, only the intensity of customers has a positive effect on the selection of an innovation strategy. Thus, if a company pursues an innovation strategy, it is important to frequently scan the customers and internal capabilities. The new customers can be an important information source for new ideas. Low-cost strategy is not influenced by the scanning intensity of a company. Therefore, hypothesis 1a is only partially supported. For both strategies, the scope of the scanning does not contribute to the choice of a generic strategy. Therefore, hypothesis 1b is not supported.

Hypothesis 1c deals with the intelligence dissemination. Intelligence dissemination proved to be important for both generic strategies. This supports hypothesis 1c. The spread of information throughout the organisations leads to the selection of a generic strategy. The hypothesis on responsiveness shows partial support. The responsiveness has a positive effect on the selection of an innovation strategy. The argument is clear: in an innovative and competitive environment, it is important to quickly respond to new opportunities. If a company do not respond quickly, another company might have taken the opportunity. Thus, hypothesis 1d is partially supported.

Some control variables are significant. It appears that companies that are part of a larger entity more often follow an innovation strategy. Perhaps they have more finance to invest in innovation. The manufacturing sector has a positive relationship with the selection of an innovation strategy, the wholesale and retail sector a negative effect. The low-cost strategy is not influenced by the control variables.

7.2 Resources

In this section, we shall discuss the three hypotheses concerning resources. The ease of acquiring resources, perception of no barriers in acquiring them and no problems with tuning the resources are to be expected to have a positive effect on the constituency of the bundle of resources. In table 20, the correlations are presented, in table 21 the results of the regression analysis are presented.

table 20 Correlation variables influencing resources

	<i>Resources innovation</i>	<i>Resources low cost</i>	<i>Resource acquisition</i>	<i>Barriers</i>	<i>Resource tuning</i>	<i>Dummy subsidiary</i>	<i>Dummy 1 sector</i>	<i>Dummy 2 sector</i>	<i>Size (ln employment)</i>
Resources innovation	1								
Resources low cost	.16*	1							
Resource acquisition	.38**	.35**	1						
Barriers	.09	.12	.12	1					
Resource tuning	.15*	.09	.23**	.21**	1				
Dummy subsidiary	.07	-.04	-.10	.03	.02	1			
Dummy 1 sector	.01	-.17*	-.02	-.05	-.03	.00	1		
Dummy 2 sector	-.12	.03	-.00	.05	.07	-.00	.49**	1	
Size (ln employment)	.05	-.03	-.03	-.02	-.05	.04	-.16*	-.21**	1

* $p < .05$, ** $p < .01$.

Source: EIM.

table 21 Regression results hypotheses resources^a

	<i>Resources innovation</i>	<i>Resources low cost</i>
H2a Resource acquisition	.08	.10
H2b Barriers	.08	-.02
H2c Resource tuning	.36***	.31***
Dummy subsidiary	.07	.10
Dummy 1 sector	.07	-.26***
Dummy 2 sector	-.14	.13
Size (ln employment)	.07	-.01
R ²	.18	.17
F value	F (7,170)=5.11***	F (7,168)=4.94***

^a Standardized values; * $p < .10$, ** $p < .05$, *** $p < .01$.

Source: EIM.

The regression analysis shows partial support for our hypotheses. We found no support for hypotheses 2a and b. Based on these results, we can conclude that companies with one of the generic strategies have the same problem (or no problems) with acquiring resources as companies with a 'stuck in the middle' strategy. Only resource tuning is

positively related with a consistent resource bundle for innovation or low costs. Hypothesis 2c is supported. The results of these regressions can be interpreted as that the acquisition of resources is for most companies no problem, the companies that are good in tuning the right resources can make a consistent bundle of the resources.

Of the control variables, only the manufacturing sector has a significant, negative effect on the resources that are important for low costs. This implies that companies in the industry are not able to come up with a consistent resource bundle.

7.3 Growth

In this section, we shall discuss the results of the regression of growth. In chapter 4, we formulated five hypotheses concerning antecedents of growth; strategy, resources, a fit between the two, market attractiveness and growth ambition. In table 22, the correlations are presented. To test for the effect of the fit between strategy and resources, we performed a hierarchical multiple regression. The significant increase in the F-statistic ($F_{\text{change}}(2, 141) = 3.05$) indicates that the inclusion of the interaction terms is statistically significant. In table 23, the results of the regression analyses are presented.

table 22 Correlations variables influencing growth

	<i>Growth</i>	<i>Innovation strategy</i>	<i>Low-cost strategy</i>	<i>Resources innovation</i>	<i>Resources low cost</i>	<i>Fit inn. strategy - resources</i>	<i>Fit low-cost strategy - resources</i>	<i>Growth customer base</i>	<i>Growth ambition</i>	<i>Dummy subsidiary</i>	<i>Dummy 1 sector</i>	<i>Dummy 2 sector</i>	<i>Size (ln employment)</i>
Growth	1												
Innovation strategy	.05	1											
Low-cost strategy	.02	.24**	1										
Resources innovation	.04	.34**	.22**	1									
Resources low-cost	.13	.02	.23**	.16*	1								
Fit inn. strategy - resources	-.04	-.02	.25**	.38**	.23**	1							
Fit low-cost strategy - resources	-.04	.15	.08	.08	.30**	.06	1						
Growth customer base	.22**	.32**	.08	.03	.04	.12	.08	1					
Growth ambition	.17*	.17*	.13	.05	.08	.25**	-.06	.35**	1				
Dummy subsidiary	-.09	.15*	-.01	.07	-.04	-.04	-.10	.03	.04	1			
Dummy 1 sector	-.21**	.02	.04	.01	-.17*	.13	-.13	-.09	-.02	.00	1		
Dummy 2 sector	-.07	-.13	.04	-.12	.03	.03	-.01	-.21**	-.06	-.00	.49**	1	
Size (ln employment)	.09	.02	.06	.05	-.03	.04	-.04	.03	.04	.04	-.16*	-.21**	1

* $p < .05$, ** $p < .01$.

Source: EIM.

table 23 Regression results growth^a

		<i>Growth development</i>	<i>Growth development (interaction effect)</i>
H3 a	Innovation strategy	.01	-.00
H3 a	Low-cost strategy	-.09	-.07
H3 b	Resources innovation	.00	.04
H3 b	Resources low cost	.12	.19**
H3 c	Fit - innovation strategy - resources		-.16*
H3c	Fit - low-cost strategy - resources		-.15*
H3d	Growth customer base	.19**	.23**
H3e	Growth ambition	.12	.13
Dummy subsidiary		-.13	-.15*
Dummy 1 sector		-.13	-.10
Dummy 2 sector		.06	.02
Size (ln employment)		.02	.01
R ²		.12	.16
F value		F (10,143)=1.96**	F (12,141)= 2.19**

^a Standardized values; * $p < .10$, ** $p < .05$, *** $p < .01$.

Source: EIM.

Hypothesis 3a states that a generic strategy will result in higher organisational growth. In both regressions, strategy does not have a direct significant relationship with firm growth. Also the low-cost strategy does not have a direct significant relationship. Therefore, we have to reject hypothesis 3a. In the discussion part, we shall go deeper into a possible explanation for this absence of relationship.

In hypothesis 3b, we formulated the relationship between a consistent resource bundle and organisational growth. Only in the regression with the interaction terms included, we found partial support for this hypothesis, i.e. a consistent resource bundle focussing on low-cost has a positive effect on organisational growth.

The interaction terms (fit innovation strategy - innovation resources and low-cost strategy and low-cost resources) are included in the second regression. There was a significant increase in the F-statistic, implying that the interaction is significant. Also both coefficients are significant (at the 0.10 level). However, contrary to our expectations, there is a negative sign. This implies that if there is a good resource fit between strategy and resources, this will lead to lower organisational growth. In other words, if there is a good fit between an innovation strategy and innovation resources, and increase in the value of innovation strategy (more consistent innovation strategy), organisational growth will be somewhat lower. Also for a low-cost strategy it holds that if there is a good resource fit concerning low-cost, the relationship between organisational growth and low-cost strategy will be smaller. Therefore, we have to reject hypothesis 3c. We shall go deeper into this result in the discussion part.

In both regressions, we found the growth of the customer base as an important explanation for organisational growth. Thus we found support for hypothesis 3d. The growth

ambition of the company does not have a significant relationship with organisational growth. Therefore, hypothesis 3e has to be rejected.

Of the control variables, only the subsidiary dummy has a negative effect on company growth when the interaction terms are included. This implies that subsidiaries have a lower growth rate.

7.4 Conclusion and discussion of the empirical results

In this chapter we have tested our research model. The results of the hypotheses testing are summarized in table 24.

table 24 Summary hypotheses testing

<i>Hypothesis</i>	<i>Accepted/rejected</i>
H1a: The scope of scanning of a company is positively related with the selection of a generic strategy.	Rejected
H1b: <i>The intensity of scanning of a company is positively related with the selection of a generic strategy.</i>	'Accepted' (partial)
H1c: <i>Greater emphasize on intelligence dissemination is positively related with the selection of a generic strategy.</i>	'Accepted'
H1d: <i>The responsiveness and proactiveness of the company is positively related with the selection of a generic strategy.</i>	'Accepted' (partial)
H2a: <i>Companies that have no difficulty in acquiring the right resources will have a consistent bundle of resources.</i>	Rejected
H2b: <i>Companies that perceive no barriers in acquiring resources will have a consistent bundle of resources.</i>	Rejected
H2c: <i>Companies that have no problems with tuning their resources will have a consistent bundle of resources.</i>	'Accepted'
H3a: <i>Companies with a focus of one of the generic strategies will have a higher growth rate.</i>	Rejected
H3b: <i>Companies with a consistent resource bundle will have a higher growth rate.</i>	'Accepted' (partial)
H3c: <i>Companies with a better strategy-resource fit will have a higher growth rate.</i>	Rejected
H3d: <i>Companies active in an attractive market will have a higher growth rate.</i>	'Accepted'
H3e: <i>Companies with a higher growth ambition will have a higher growth rate</i>	Rejected

Source: EIM.

Of the twelve hypotheses, six are rejected. In this section, we shall discuss possible explanations for these results.

The scope of scanning does not have an effect on the strategy. This is in line with the mixed support found in Beal (2000). Its lack of support might also be the result of the measurement problems we had with this variable. We could not find a reliable indicator.

Two hypotheses regarding resources were rejected. Both hypotheses are dealing with the acquisition of resources. It proved that the difficulty (or no difficulty) of acquiring

resources does not influence the bundle of resources of a company. Apparently, companies are able to acquire the resources or are influenced to the same extent.

Of the growth hypotheses, three out of five are rejected. Especially the rejection of the relationship between strategy and growth rate asks for extra discussion. In other words, is there another explanation for the non-significant relationships between strategy and organisational growth? The lack of finding a significant relationship might have to do with the measurement of strategy. For example, a low score on the innovation-strategy scale might imply that a company pursues another strategy (i.e., a low-cost strategy or a 'stuck in the middle' strategy). If this is the case, we have to expect not a linear relationship between innovation strategy and performance but a quadratic relationship. If a company has a low score on the innovation strategy, it might pursue a low-cost strategy. If this is the case, the organisational growth can be high. If the company has a high score on innovation strategy, this will lead to a high organisational growth as in line with our hypothesis. If there is a medium score on the innovation-strategy scale, this might imply a 'stuck in the middle' strategy, which will lead to a relatively low organisational growth rate. The same argument holds for a low-cost strategy and resources.

We tested for this non-linear relationship by including a quadratic term. The results are presented in table 25.

table 25 Regression results growth with non-linear effect ^a

	<i>Growth development (interaction term and non-linear)</i>
H3a Innovation strategy	.09
H3a Low-cost strategy	-.11
H3b Resources innovation	-.00
H3b Resources low cost	.19**
H3c Fit – innovation strategy – resources	-.15*
H3c Fit – low-cost strategy – resources	-.19**
H3d Growth customer base	.21**
H3e Growth ambition	.11
Innovation strategy quadratic	.17*
Low-cost strategy quadratic	-.05
Resources innovation quadratic	-.07
Resources low-cost quadratic	.19**
Dummy subsidiary	-.16
Dummy 1 sector	-.10
Dummy 2 sector	.05
Size (ln employment)	.03
R ²	.20
F value	F (16,137)=2.20***

^a Standardized values; * p<.10, ** p<.05, *** p<.01.

Source: EIM.

The regression results show that there is a non-linear effect of innovation strategy and low-cost resources. The beta of the strategy-resource fit variable is still negative. The results can be interpreted that the more focused the innovation strategy, the higher the growth rate. The same holds for the low-cost resources.

8 Summary and conclusion

Objective of the study

Growth of companies is an important policy issue. Growth of companies is considered to be an important determinant of economic growth and the creation of employment. Especially, fast-growing companies are important for the creation of employment and the dynamism in the organisation stock. When looking at the growth rate of companies, we can see different growth patterns. Some companies grow very fast, while others remain stable or even shrink. Also the growth rate of companies changes over time. The growth rate of fast-growing companies slows down or the growth rate accelerates to a much higher rate. The question is whether we can explain the growth of a company and the different growth patterns, especially of fast-growing companies. Therefore, the research questions in this study are:

- *What possible organisational growth patterns and stages can emerge and which theories can explain these different growth patterns?*
- *Which resources are important in the different growth stages?*
- *To what extent do (the fit between) strategy and resources influence organisational growth?*

Given these questions, the unit of analysis in this study is the individual company.

Different theoretical perspective to explain growth and growth patterns

There are different theoretical perspectives that provide explanations for growth and growth patterns: lifecycle theory, teleology theory and evolutionary theory of organisational change.

The lifecycle theory focuses on the different stages a company can go through. Stages are often labelled as start-ups/birth, expansion, consolidation, diversification and decline. Research often concentrates on the characteristics of a company in each stage. The research is often deterministic and descriptive. Explanation why and how a company grows usually remains unanswered in this research stream.

In the teleology theory, the central focus is on goal setting and actions taken to reach these goals. Development is a repetitive sequence of goal formulation, implementation, evaluation and modification of goals based on what the organisation has learned. The entrepreneurs or managers play an important role in this development process. The goals can be very broad, from growth to continuity, short-term profit or prestige. After the goals are formulated, actions to reach the goals have to be taken, such as acquisition of resources. There are different paths to reach the goals; therefore, this theory does not prescribe one best way. Depending on the goals, the growth of companies can have different patterns. It is not possible upfront to prescribe a certain pattern of growth. In the evolutionary theory of organisational change, routines and capabilities play a major role. Certain activities in a company evolve over time in routines. Via a process of natural selection, successful routines will survive. These routines spread over all companies through internal and external imitation. A company that is good in developing efficient and good routines can grow faster than other companies.

Resources and entrepreneurial orientation drivers for growth

Resources (acquisition, efficient use) play an important role in explaining growth of companies. In each theory, resources are discussed. In the lifecycle theory, different resources are needed in the distinguished stages. In the teleology theory, resources are necessary to reach the goals. In the evolutionary theory of organisational change, capabilities are important. One of the capabilities can be the ability to efficiently use resources in the transformation process.

In the resource-based view of the firm, resources are the starting point of arguing. According to the resource-based view of the firm, a company's strategic advantage is derived through its unique set of competencies and resources. The resources have to be acquired, developed and deployed in such a way that the 'right' combination of resources creates a competitive advantage for the company. This process of acquiring resources and creating capabilities is another major task of management.

The management process of strategy formulation and resources is studied in the entrepreneurial-orientation literature. Entrepreneurial management is defined as a set of opportunity-based management practices. Important dimensions of entrepreneurial management are strategic orientation, resource orientation, management structure, reward philosophy, growth orientation and entrepreneurial culture. It is the task of management to optimise these different dimensions. If a manager is more successful in doing so, this will result in stronger growth.

Towards a model of organisational growth

Based on the discussed theories, we posit that growth starts with an entrepreneur/manager who envisions an opportunity or new possibilities. To identify these opportunities, the entrepreneur/manager has to scan the environment. If the company is receptive and flexible enough to grasp the opportunity, this will come to the fore in a clearly defined and well-focused generic strategy. Furthermore, the resources or resource bundle should be in accordance with the envisioned opportunities and the pursued strategy. In the resource-acquisition process, the perception of environmental munificence and resource acquisition self-efficacy plays a role. If the entrepreneur/manager is more efficient in this process, the company is likely to grow faster than competitors and the performance will be better. Together with the market opportunities and the growth ambition, the strategy and resources will influence the growth rate of a company.

Empirical results

This model is tested in an empirical study. We selected fast-growing companies from the Reach database. These companies are active in the industry, wholesale and retail and in services. 587 companies were contacted by telephone. Of these 587 companies, 208 companies participated in the telephonic interview (a response rate of 35%). With the collected data, we tested our hypotheses of our model.

The hypotheses concern three topics, factors that influence strategy, resources and growth. We identified two generic strategies, an innovation strategy and a low-cost strategy. The innovation strategy is influenced by the scanning intensity focussing on customers. This implies that customers are an important source for new ideas and opportunities. It is the customer who eventually has to buy the products. Closely related with this is the effect of responsiveness on the innovation strategy. When identifying new opportunities, a quick response is very important. If a company is not responsive enough, another company might have taken the opportunity. This is especially important for innovative companies. Also the dissemination of information is important. The

new opportunities that are identified have to be diffused throughout the organisation. If this is done, the company can respond to the opportunity. The selection of an innovation strategy is also influenced by the sector of the company, the industry is more innovation oriented, the wholesale and retail sector is less innovation oriented.

The low-cost strategy is only influenced by intelligence dissemination. This might imply that a low-cost strategy is more internally oriented. The information diffusion (most likely about costs) is enough for this strategy. A comprehensive scanning of the environment proved not to be important, despite the fact that there might be sources that can be used to lower the costs (e.g. new, more efficient technology).

Resources and resource bundles should be in line with each other. This might be influenced to the extent the company faces problems by acquiring the correct resources. A company might also have problems by optimising the use of the resources. The regression shows that only resource tuning has a positive relation with the consistency of the resources, both innovation related resources and low-cost related resources. The resource acquisition and potential barriers do not have an effect on the resource bundles. The resource bundle related to low cost is influenced by sector. In the manufacturing sector it is relatively more difficult to acquire productive employees at this moment.

In our model, we hypothesise that growth is influenced by the consistency of the strategy (one of the generic strategy and not a 'stuck in the middle' strategy), a consistent resource bundle, the fit between the strategy and the resources, the attractiveness of the market and the growth ambition of the company. Our results show that market attractiveness is a very explanatory variable for growth. It is the result of managerial action that the company is in such a market. They selected the good market opportunities and became active in these markets. When including the interaction term to test for the strategy-resource fit variable, also low-cost resources have a positive relation with the growth rate of a company. Contrary to our expectations, we found a negative effect of the strategy-resource fit. This implies that there is a better fit, the effect of strategy on the growth rate will be lower.

If the company is a subsidiary, this has a negative effect on the growth rate. This might imply that subsidiaries are limited in their growth potential. They might be restricted in pursuing new opportunities because these opportunities lay on the activities of their sister companies (limitation of scope).

Suggestions for further research

This study is focusing on fast-growing, medium-sized companies. It will be interesting to test the same model for companies with another growth rate as well or for small companies. In such a research design, it is possible to test if companies with a different growth rate or a different size are influenced by other variables.

Growth is a variable that is the result of the difference between two periods of time. In this study, a cross-section was done with questions about the past and expectations for the future. It will be methodologically more correct to use a longitudinal research design to study growth.

The assessment tool could be further improved. Although we link up with existing scales, the results were somewhat disappointing. The strategy-resource fit results in puzzling results. Although there are mixed results reported on the strategy-resource fit relationship reported, a positive relationship be-

tween the strategy-resource fit and organisational growth is theoretically appealing. In this study, we found a negative relationship. There might be other moderating variables in play we did not integrate in our model. Further research is encouraged on this particular topic.

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