

# Organizational Configuration & Internationalization

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Master thesis

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The word "Public" is centered in a white rectangular box. The background of the entire cover is a green and yellow abstract image with a perspective effect, resembling a tunnel or a road stretching into the distance, with bright light at the horizon.

# Organizational Configuration & Internationalization

## A Case Study of Internationalizing Dutch Small and Medium-Sized Product Software Businesses

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## Abstract

Based on the configuration approach, internationalization and performance theories, this research describes how Dutch product software businesses organize themselves for internationalization. An organization's configuration consists of four imperatives: leadership, environment, strategy and structure. Furthermore, this research looks at how organizational configurations changes during the internationalization process and the effect it has on performance.

The configuration of an organization can be dominated by a single imperative. In the simple firm the leadership imperative is dominant, in the planning firm the strategic imperative and in the organic firm it is both the environmental and structural imperative. Certain circumstances can shift the organization from one imperative to another, causing the organization's configuration to change.

The creation of a good fit between the organization's configuration and its internationalization process should facilitate good performance. Creating a good fit does not mean that a single imperative fits the circumstances, but the whole configuration needs to be aligned.

To describe the configuration of product software organizations, this research has made use of a case study. By analyzing aspects of the four imperatives and changes within those, the organizations' configuration is described and which changes appear within the configurations during internationalization. With the use of the performance indicators international growth, international intensity and scope, a well performing configuration for internationalizing organizations is developed.

The internationalization process of organizations often develops in an incremental way. The first steps in the international market are cautiously taken in nearby markets and as experience grows more distant markets are approached. The main driver at the start of internationalization comes from the vision of the leader, often supported by opportunities from the environment. In later stages of internationalization, strategy takes on a more prominent role.

Further considerations to take into account by an organization that want to internationalize involve product issues. An organization needs to contemplate the usability and readiness of its product for the international market. Furthermore, the wish of a leader or opportunity in the market alone is not sufficient, there needs to be a strategy in place that supports an organization's activities.

(CONFIGURATION; INTERNATIONALIZATION; PERFORMANCE; PRODUCT SOFTWARE)

## Preface

After seven months of hard work, I can present you my master thesis. Many of you will be surprised that my master thesis is performed at a software company; well you are not the only one. If someone would have told me that I would be doing my research for such an organization, I would not have believed them. But as a result of a positive first meeting with Reinier Morra from Sigmax and the general character of the assignment I have decided to take the challenge.

One of the reasons to accept the assignment is that it involved writing a plan for strategic purposes in order to develop the organization. I have always been very interested in the development an organization goes through and what directions an organization chooses to go. Sigmax provided this with their request for a research on export strategies.

During my research I have experienced that it is not always easy to write things down. It was very often a struggle in my mind to find the balance between the theory, my own views, and sometimes also the expectations of Sigmax and the university. The best part about doing this research was when theory and practice came together during the interviews and noticing that this showed similarities.

I would like to thank a few people for their help and support. In the first place I would like to thank Sigmax for giving me the opportunity to do a research assignment at their organization. I have worked with joy in the office together with all my colleagues. I would like to thank Reinier Morra in particular for his advice and critical feedback on my work. Furthermore I would like to thank my supervisors at the University of Twente for their feedback and helpful comments. Finally I want to thank Rianne, my family and friends for their interest in my progress and the support they have given during this period.

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# 1 | Introduction

There are many reasons for companies to start international activities. In a relatively small country like the Netherlands, the size of the market can be a reason to get more business from international markets. But starting international activities is not easy (Aspelund & Moen, 2005), and if there is little experience, how should these activities be started, which steps should be taken and how does an organization need to organize itself for internationalization? This last question is the main topic of this research, how to organize for internationalization to achieve performance?

The configuration approach (Miller, 1987; 1995) can contribute to successfully organize an organization. As there are several ways for an organization to become successful, it is not always visible what makes them successful. According to the configuration approach it is the interaction between the four imperatives (strategy, structure, leadership and environment) and not just one part of the organization (Miller, 1987). The drawback of Miller's configuration approach is that internationalization and international performance are not taken into account.

Whereas Cooper and Kleinschmidt (1985) mainly focus on export strategy as largest contributor to international performance, the interaction with the other three imperatives is not considered. To cover this gap between the configuration approach and international performance, the model Cooper and Kleinschmidt (1985) use in their study on export strategies and its influence on international performance is combined with the configuration approach.

This research tries to close the gap between configuration and international performance by combining the theories of Miller (1987) and Cooper and Kleinschmidt (1985). The combination of the two has to contribute to a better theoretical understanding about how the configuration approach can contribute to an increase in international performance and how organizations have to organize themselves for international activities.

The results of the research should also have practical implications for organizations that want to internationalize. The proposed research question is therefore specified for a particular industry. A case study of software organizations that are already active in the international market have to contribute to a successful internationalization process of other software organizations. The results of this study are used to help organize Sigmax for a successful internationalization.

Sigmax is a company that mainly operates in the Dutch market with software applications for PDAs and handhelds for mobile workers. Sigmax's goal is to grow at least 50 % in turnover annually for the next 3-5 years. The additional goal to earn 40% of its turnover in foreign markets in the same time period has to contribute to reach the overall growth figures. Looking at other companies in the business, Sigmax realized that different export strategies led to differing results and is wondering what the underlying reason is.

Additionally, Sigmax has very limited experience in the field of internationalization and exporting products. It faces the problem of how to organize the company for this step, and what markets to enter.

Managers within Sigmax acknowledge that there is little known about the international markets they want to operate in and the actors to compete with. It can be generally stated that Sigmax has the idea to increase its international activities, but it does not know how and in which markets to do so. Therefore the research problem Sigmax has put to the table as a result of this knowledge gap is:

*What can Sigmax learn from the literature, models, and other companies to develop a strategy that will lead to accomplish the goal of 40% turnover from international activities within the next 3-5 years?*

Currently, Sigmax business unit Law Enforcement already experiences some international sales in Belgium. An unsolicited order acquired at an exhibition was the start for this first international sale. As the first orders were not expected, Sigmax is now looking at how to develop and increase international sales for Law Enforcement, and how to start international activities for its other business unit: Sigmax Mobile Solutions.

With the research gap between configuration and internationalization and the practical problem of the software company Sigmax, the following research question is formulated:

***"How do the four configurational imperatives change in the first five years of the internationalization process of SMEs in the product software business?"***

Apart from the changes in organizations' configuration, the international performance of the organizations is taken into account. With the use of international performance, the changes within a configuration can be assessed on its success, which can then be used to help an organization to organize itself for internationalization. Which performance indicators are being used will be outlined later in this report, the following subsection will state in which part, together with how the rest of the report is structured.

In chapter two, a theoretical framework will be built around the main topics: the configuration approach, the internationalization process and international performance. These building blocks will be separately discussed before they are brought together in the model suggested in Figure 2. This model will form the basis for further investigation of Sigmax and other software producing organizations and the relation between their configuration and international performance. The method used to gather data on configuration and performance is introduced in chapter three, the results of the data gathering will be presented in chapter four. Chapter five will discuss the findings and finally, chapter six states the conclusions and provides the limitations and recommendations of this research.

The focus of this study is on the internationalization process of small and medium-sized businesses in the product software industry and how this changes the configuration of the organization over time. The selection and description of markets is beyond the scope of this research.



## 2 | Theoretical background

In order to understand the principles of configuration and internationalisation, both concepts are discussed separately. First the principles of the configuration approach are explained by illustrating the configuration of the simple, planning and organic firm (Miller, 1983). After the concept of configuration is made clear, the internationalization process, international performance and the relation of each individual imperative to performance is being discussed. In section 2.4 and 2.5, both concepts are brought together to develop a theoretical framework and model to cover the gap between configuration and internationalization as stated in chapter 1

### 2.1 Configuration approach

The theory of the configuration approach stems from Miller's 'The Genesis of configuration' (1987), in which organizational configurations are being discussed. There are four organizational elements that form configuration: leadership, environment, strategy and structure, these elements are called imperatives (Miller, 1987). A single imperative does not determine an organization's complete configuration, although a single imperative can be leading, it is the interaction between the four imperatives that determines how the configuration is shaped (Mintzberg & Lampel, 1999).

#### 2.1.1 The four imperatives

This section will give the definitions of the four imperatives leadership, environment, strategy and structure, which will be used throughout this research. Before more specific characteristics are presented, a general definition of each imperative is given. The use of broad definitions is necessary as the roles and importance of the imperatives can change, depending on the configuration in place.

The first definition concerns leadership, this is defined as: "a leader controls the allocation of attention focus of the participants in the organization" (Cyert, 1990). This means that leadership is used to direct employees in the right direction to accomplish the goals of an organization. These goals can be a result of strategy or a leader's preferences for example.

The second definition involves the environment of the organization: "all elements that exist outside the boundary of an organization and have the potential to affect all or part of an organization" (Daft, 2007). Examples of such elements include the government, socio-cultural conditions, economic conditions, competition, technology, and financial resources (Daft, 2007).

Strategy is defined as: "a course of action for achieving an organization's purpose" (De Wit & Meyer, 2004). A strategy is a means to give direction to the course of an organization to reach its pre-set goals (De Wit & Meyer, 2004; Daft, 2007).

For the structure of an organization the following definition is used: "formal reporting relationships, groupings, and systems of an organization" (Daft, 2007). Characteristics for structure can be found in the level of formalization, centralization and flexibility of an organization. Formalization refers to the

amount of written rules and procedures, whereas centralization involves the level at which decisions are made. The more decisions are made at the top, the more centralized an organization is (Daft, 2007).

In addition to the definitions described above, Table 1 presents some more specific characteristics of the separate imperatives. The described characteristics of the imperatives are especially noticeable if the concerning imperative is dominant.

	<b>Leadership</b>	<b>Environment</b>	<b>Strategy</b>	<b>Structure</b>
Influence	<ul style="list-style-type: none"> <li>- CEO's motives, goals, neuroses and talents</li> <li>- Experience</li> <li>- Risk taking (Kuivalainen, Sundqvist, &amp; Ser, 2007)</li> </ul>	<ul style="list-style-type: none"> <li>- Environmental challenges</li> <li>- Competition</li> <li>- Technology</li> <li>- Complexity</li> <li>- Stability</li> </ul>	<ul style="list-style-type: none"> <li>- Normative concepts of strategy, plans and distinctive competencies</li> </ul>	<ul style="list-style-type: none"> <li>- Structural constraints and patterns of interaction</li> <li>- Flexibility</li> <li>- Level of centralization</li> <li>- Level of formalization</li> </ul>
Themes and elements	<ul style="list-style-type: none"> <li>- Strategy, structure and environment reflect CEO's personality</li> <li>- Decision maker</li> </ul>	<ul style="list-style-type: none"> <li>- Adaptation of structure and strategy to environment and technology</li> <li>- Scanning</li> </ul>	<ul style="list-style-type: none"> <li>- Explicit strategies and plans</li> <li>- Competitive advantage</li> <li>- Selection of markets</li> </ul>	<ul style="list-style-type: none"> <li>- Control of task environment via structure</li> <li>- Internal focus</li> <li>- Co-optation of environment</li> </ul>
Conditions of applicability	<ul style="list-style-type: none"> <li>- Centralized power and ownership</li> <li>- Birth stage of life cycle</li> <li>- Small size</li> </ul>	<ul style="list-style-type: none"> <li>- Uncertain and dynamic environment</li> <li>- Much competition</li> <li>- Small size</li> </ul>	<ul style="list-style-type: none"> <li>- Commitment to strategy</li> <li>- Turnaround</li> </ul>	<ul style="list-style-type: none"> <li>- Barriers to entry</li> <li>- Stable environment</li> <li>- Large size</li> <li>- Trade protection, patents and monopoly</li> <li>- Slack resources</li> </ul>
Nature of change within configurations	<ul style="list-style-type: none"> <li>- Adherence to one basic orientation that resists dissolution until CEO departs</li> </ul>	<ul style="list-style-type: none"> <li>- Responsive adaptation to environment</li> <li>- Quick, incremental change</li> </ul>	<ul style="list-style-type: none"> <li>- Proactive change that seeks out opportunity and enacts the environment</li> </ul>	<ul style="list-style-type: none"> <li>- Insulation and resistance to adaptation punctuated by revolutions in response to crisis</li> </ul>

**Table 1: Characteristics of the imperatives<sup>1</sup>**

<sup>1</sup> Adapted from Miller (1987)

Although the configuration approach looks at organizations as a whole, the characteristics described in Table 1 relate to a single imperative. Therefore section 2.1.2 through 2.1.4 describe three types of firms and the role of each imperative in unison.

### **2.1.2 The simple firm**

Simple firms can be characterized by their small size and centralized power of the owner-managers (Miller, 1983). The strong leader is the immediate contributor to the rest of a simple firm's configuration. Decisions on strategy, structure and even markets are made by this strong leader and therefore determines the overall configuration (Miller, 1987).

Although strategy is decided upon by the leader, these decisions are merely made on intuition and feeling (Miller, 1983). Therefore strategy in a simple firm is more a vague vision of the leader, rather than an explicit stated plan and clear direction for the future.

Due to a leader's personality, power and knowledge, the environment is often completely left out of the equation. Leaders assume their organizations as so unique, that they see their market as a niche and do not consider the environment as important. Even though, the hostile nature of a simple firm's markets can threaten the organization (Miller, 1983).

It is also possible that power in a simple firm is divided between several leaders. Contradicting views of the leaders can hinder entrepreneurial activity and the development of the organization. If there is a shared vision between the multiple leaders or there is only a single leader, such obstruction is absent and decisions can be made without the need for managerial acceptance or the influence of conflicting views (Miller, 1983).

### **2.1.3 Planning firm**

As the name already assumes, coordinated planning and also control lies at the basis of the planning firm. In order to cope with a relatively stable environment, the planning firm tries to operate in an efficient way (Miller, 1983). Coordinated planning and control prevents the organization to operate in complex and unpredictable environments, because it is difficult to standardize work procedures in these kind of environments (Mintzberg, 1984). Slack resources allow planning firms to have systems in place that facilitate efficient operations (Miller, 1983).

Due to stringent planning, strategy is the leading imperative in the planning firm configuration. Although decision making is centralized, there is more than one leader involved in that process, therefore it is necessary for an organization to have clear product-market strategies to guide decision making. Even though the leader is not the only person in charge of decision making, his role still involves initiating entrepreneurial activities and taking the responsibility for these risks (Miller, 1983)

The strategic focus of a planning firm leaves out the environment for a large part as stimulating factor. Unforeseen opportunities can not be act upon as the structure of tight control and formal procedures are designed to facilitate efficient operations. A more gradual change, that is strategically planned, is more applicable for a planning firm in the development of its markets. Furthermore regular changes do not allow extensive control systems to be implemented (Miller, 1983).

#### **2.1.4 Organic firm**

The environmental and structural imperatives are dominant in the organic firm. The dynamic environment the firm operates in requires flexibility from an organization. The structure of an organic firm provides the needed flexibility to cope with the rapid changes in market demand and competition. Decentralized decision making also enables organizations to respond quickly to changes in the environment (Miller, 1983).

Strategy making is difficult in organic firms since frequent changes in the heterogeneous environment require quick adaptation of an organization. Therefore strategy is more adaptive of nature and decisions are made by multiple managers, based on quick and careful analysis. Rigid strategies that have to give direction to the organization hinder the ability of the organic firm to adapt (Miller, 1983).

Another characteristic of the organic firm is that decision making is executed by the persons who are the most knowledgeable about a certain market or subject (Miller, 1983). Therefore the importance of a single leader is subordinate in the decision making process. The complexity of the heterogeneous environment and to foster high adaptive capabilities is a too large task for a single leader (Miller, 1983).

#### **2.1.5 Concept of fit**

The three firm types described previously operate under certain environmental circumstances, alignment with these circumstances is required for good performance, this is called the concept of fit (Harms, Kraus, & Schwarz, 2009). To create fit, an organization's strategy needs to be aligned with its environment, and its capabilities with its strategy (Beer, Voelpel, Leibold, & Tekie, 2005). If an organization is able to align its configuration with the circumstances at hand and create a fit, performance will be achieved.

Changes in one imperative of the configuration also influence the fit of the other imperatives. This can lead to misfit of the configuration, resulting in reluctance to change in the first place (Harms, Kraus, & Schwarz, 2009). Reluctance to change also arises from investments that become redundant by changing an organization's configuration, furthermore, limited resources in SMEs do not allow redundancy.

Apart from resource restrictions, other barriers can prevent the creation of fit within an organization. Differing agendas of managers can cause conflicts in the process of strategy development and implementation, which results in misalignment. Unclear expression of an organization's strategy and disagreement about that strategy can also limit an organization to create fit (Beer, Voelpel, Leibold, & Tekie, 2005).

Misalignment can also occur if new core elements are added to the organization (Siggelkow, 2002). The start of international activities is such a core element that requires the realignment of the organization's configuration with the new circumstances. By building reinforcing elements around the new core element that also reinforce existing core elements, fit is created (Siggelkow, 2002). Section 2.4 describes how the four imperatives can contribute to the reinforcement of the internationalization process in an organization's configuration.

An organization's ability to realign its configuration with constant changing circumstances is also called 'fitness' (Beer, Voelpel, Leibold, & Tekie, 2005). Although realigning a configuration with little misalignment can create losses, changes in an organization may therefore only take place if the benefits of creating fit outweigh the cost (Harms, Kraus, & Schwarz, 2009). The next section describes several events that cause the reconfiguration of organizations in order to regain fit and which imperatives have played a role in regaining this fit.

### **2.1.6 Changes within configurations**

Establishing a competitive advantageous configuration is not just a result of following a clear path. It is even possible for organizations to take a different path and still be as successful as other organizations; this is also called equifinality (Harms, Kraus, & Schwarz, 2009; Gresov & Drazin, 1997). Different events can trigger the organization to focus on a certain imperative to start building a configuration. Before building a new configuration, such an event has to become widely recognized and supported and has to become a core principle for the organization (Miller & Whitney, 1999).

Too much focus on a central theme or too little diversity in the workforce can have a negative effect on the organization. This hinders the organization to deal with the complexity of the environment because the organization has become too simple and narrowly focussed (Miller, 1995), which is a possible threat in the planning firm (Miller, 1983) and a misfit with the environment arises (Beer, Voelpel, Leibold, & Tekie, 2005). Although it is important to have a good configuration, an organization should be aware that it has to reconfigure itself at some point in time (Miller, 1995).

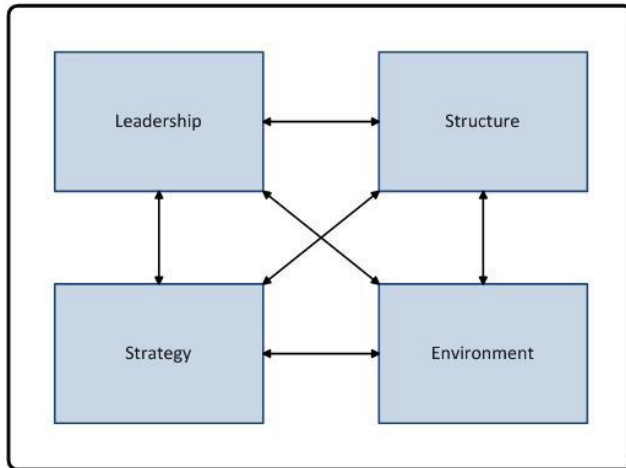
An organizational configuration is not an ever lasting static state of the company, it sometimes has to change. Changes in the market for example affect the way in which markets have to be approached which result in strategic and structural changes as well (Miller & Whitney, 1999). However, Hienerth and Kessler (2006) note cautiously that older companies may resist change and as a result have lower performance levels due to their inflexibility.

Figure 1 shows how the four imperatives are related to each other and which path the configuration can take to form the organization's overall configuration. With the leadership imperative as a starting point in the simple firm, there are several options to proceed the configuration of an organization. The strong leader can choose to define a strategy first before markets are selected. But it is also possible that the leader selects the most suitable environment first, before a strategy is established. In both cases the preferences and vision of the leader are leading in the configuration.

The leadership imperative comes to the surface if the organization is led by a strong leader, like in the simple firm. There are circumstances that can shift the organization to the leadership imperative; a new leader or poor performance can trigger the dominance of this imperative. On the other hand, changes in competition and market uncertainty can cause the organization to move away from the leadership imperative and shift towards the environmental imperative (Miller, 1987), causing the organization to adhere a more organic configuration.

Increased market power, trade barriers or an abundance of resources can move an organization away from the environmental imperative towards the structural imperative (Miller, 1987). Organizations

adopting a structural imperative often become rigid and try to avoid changes in current practices. In this case the environment is ignored and often the organization operates in stable and predictable markets.



**Figure 1: Configuration**

As mentioned before it is the complete configuration that shapes the organization and not an imperative on its own. An organization can copy the strategy of a successful organization, but might not perform as well, because it is not just the strategy, it is the interaction with the other three imperatives that determine the configuration (Miller & Whitney, 1999). This interaction and synergy of the imperatives can be seen as the most important contribution to the competitive advantage of an organization (Miller & Whitney, 1999).

In summary, it can be stated that configuration is a complex phenomenon, and that there are multiple ways to configure an organization. How an organization is configured depends on several aspects: the environment and the leader can be important contributors to an organization's configuration, as can be seen in the three described firm types.

Over time, changes within the configuration can appear as a result of changing circumstances within the organization or changes in the environment. These triggers can shift the emphasis from one imperative to another. Where first the leadership imperative was prevalent, a new market opportunity can shift the organization's emphasis to the environmental imperative in order to regain fit and improve performance.

## 2.2 Internationalization

Internationalization means: the process of expanding the organization's activities across national borders into other countries (Leonidou & Katsikeas, 1996). Starting international activities is a tremendous undertaking for small and medium sized businesses, it involves commitment and resources. This section describes the process of internationalization, which involves all the activities that are directed at setting up and developing international activities. Section 2.2.2 gives an outline of how the

internationalization process is divided in different stages. But first the internationalization process is described in more general terms.

### **2.2.1 Internationalization process**

An organization's internationalization process and expansion in foreign markets mainly takes place in a gradual manner (Johanson & Vahlne, 1977; 2009). Irregular export activities are followed by a more structural approach to export, mainly through an agent who sells the organization's products, followed by a sales subsidiary and possibly in a later stage even an own production facility in a foreign country (Johanson & Vahlne, 1977; 2009).

This gradual approach contributes to a growing experience and knowledge base about internationalization and foreign markets and as a result management will allocate more resources to international activities (Cabrol & Nlemvo, 2009). The knowledge building starts with internal and external stimuli that trigger decision-maker(s) in the preparation of internationalization. Economies of scale, managerial interest, competition or occasional international orders are examples of stimuli that can trigger the organization to start more extensive international activities (Tan, Brewer, & Liesch, 2007).

In the early stages of internationalization, organizations tend to use more indirect sales channels (Johanson & Vahlne, 1977; Leonidou & Katsikeas, 1996). Due to growing knowledge and experience, more direct sales channels are applied in the advanced stage of internationalization (Leonidou & Katsikeas, 1996). The use and development of international sales channels follows a sequential path during the internationalization process (Johanson & Vahlne, 1977).

Highly internationalized firms have used several entry modes at the start of internationalization; direct sales or a combination of direct sales and an agent are most common. After several years of international experience, entering a new market is dominated by the entry mode of direct sales in combination with agents (Cabrol & Nlemvo, 2009). The use of indirect channels like agents and distributors can slow down international growth because those parties do not pay as much attention to the market as an employee would do (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009).

In the case of limited resources, organizations can also choose to establish partnerships for exporting their products, this will keep costs down (Kuivalainen, Sundqvist, & Ser, 2007), and leverages resources (Morgan-Thomas & Jones, 2009). This partnership option is very interesting for SMEs, because they are known to have limited resources (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009).

Previous international experience of the leader is also believed to be an accelerator of internationalization (Johanson & Vahlne, 2009). Born globals are a good example of quickly internationalizing organizations, since these organizations start internationalization from inception. Although according to Johanson and Vahlne (2009) they follow a similar internationalization pattern as slower internationalizing organizations do. Born globals internationalize at a higher speed due to the managers' knowledge and experience from previous employment (Crick & Spence, 2005; Zucchella, Palamara, & Denicolai, 2007), therefore they reach an international readiness level in a shorter time

period (Tan, Brewer, & Liesch, 2007). Organizations that internationalize slowly, fail to capture the opportunities arising in international markets (Autio, Sapienza, & Almeida, 2000).

The role of networks is another aspect of knowledge building in the internationalization process (Johanson & Valhne, 2009). Within a network, organizations can learn from each other and as a result extend their knowledge base (Johanson & Valhne, 2009). The established relations in a network can be of influence in the choice of markets and entry modes. Knowledge about internationalization does therefore not necessarily have to come from an organization's own experience. Organizations that have customers or suppliers that are increasingly active in international markets are themselves more likely to start international activities (Hessels & Terjesen, 2010).

The internationalization strategy of 'nearest neighbour' versus 'world orientation' discusses the proximity of the international markets to an organization's home market (Cooper & Kleinschmidt, 1985). A world orientation is achieved if less than 67% is sold to one single foreign country (Cooper & Kleinschmidt, 1985). This cut-off point is somewhat arbitrary, because the research of Cooper and Kleinschmidt (1985) used Canadian firms for their research and the nearest neighbour was defined as the U.S.

For European countries, defining the adjacent countries of the home market together as nearest neighbour would probably be more appropriate. Leonidou and Katsikeas' (1996) overview of export literature also indicates that organizations starting international activities prefer to stay close to the home market, applying a nearest neighbour strategy at the start to reduce uncertainty and to build knowledge.

In a more advanced stage of internationalization and once more knowledge has been acquired, organizations start entering more distant countries (Leonidou & Katsikeas, 1996) and eventually may achieve a world orientation. Adhering a world orientation is perceived to result in better performance (Cooper & Kleinschmidt, 1985). Although the same objections about the definitions used should be taken into consideration as previously stated.

SMEs could adhere a global approach, but a combination of focussing on a key market and searching for new opportunities is also an option. This means that two strategies have to be applied in congruence (Morgan-Thomas & Jones, 2009). With the focus on a key market and scanning for new opportunities in other markets, better performance might be achieved in economies of scale and profitability (Morgan-Thomas & Jones, 2009). Choosing markets that are too far away, or too different from the home market, may have a negative effect on performance (Kuivalainen, Sundqvist, & Ser, 2007). Markets that are psychic too far away are therefore less likely to be chosen (Tan, Brewer, & Liesch, 2007).

In addition to the debate about adhering a global perspective or staying close to the home market, the aspect of market segmentation and product adaptation is of interest. Organizations that target specific market segments and adopt their products to those markets achieve a better performance than organizations that do not adapt their products or segment the market (Cooper & Kleinschmidt, 1985). Adapting products to the foreign market also brings advantages for the home market, because it may



bring improvements to the surface that are also beneficial for the home market (Fernhaber, Gilbert, & McDoughall, 2008).

However, there are also doubts about product adaptation. SMEs, and especially born globals, operate in such niche markets that customer and market characteristics are globally determined (Morgan-Thomas & Jones, 2009), which makes product adaptation less of an issue. Furthermore it is stated that these organizations are more concerned with the exploitation of an opportunity rather than the psychic distance to foreign markets (Morgan-Thomas & Jones, 2009).

## **2.2.2 Internationalization stages**

In order to understand the internationalization process and to be able to describe it, the internationalization process can be divided in stages. The previous section already mentions different stages in the internationalization process. This section looks at the three internationalization stages, and its characteristics, in which the internationalization process can be divided.

### **2.2.2.1 The pre-engagement stage**

In this stage the idea of starting international activities emerges. Thoughts about internationalization may be stimulated by unsolicited orders from foreign markets. As resources are limited, internationalization does not have priority yet. Characteristic for this stage is that knowledge and experience about internationalization are very limited, together with limited commitment of the organization to internationalize (Johanson & Vahlne, 1977; Leonidou & Katsikeas, 1996).

### **2.2.2.2 The initial stage**

The second stage of internationalization can be described by the development of commitment from the organization towards internationalization. More commitment is shown by the establishment of sales channels in foreign markets which are close to the home market (Johanson & Vahlne, 1977; Leonidou & Katsikeas, 1996). These sales channels can consist of indirect channels, direct channels or a combination of both (Cabrol & Nlemvo, 2009). Although the use of indirect sales channels is most common.

Even though a more structured approach to internationalization is emerging, the leader and organization still approaches internationalization in an unplanned and unstructured manner (Leonidou & Katsikeas, 1996). Furthermore, as the leader is still building up knowledge and experience about the day-to-day operations of internationalization, it is difficult to streamline international expansion.

### **2.2.2.3 The advanced stage**

The third stage of internationalization takes more consideration in market opportunities and strategy (Leonidou & Katsikeas, 1996). Furthermore, international activities become more structured and planned as a result of the more strategic and market oriented approach. Expansion in the international market is proactively searched for, showing the commitment of the organization and its management to internationalization (Leonidou & Katsikeas, 1996).

Due to growing experience, organizations are more confident and perceive internationalization as less risky. Therefore more distant countries are entered, with direct sales channels as entry mode

(Johanson & Vahlne, 1977; Leonidou & Katsikeas, 1996). In addition, to make such expansion possible, more resources are allocated to international development.

Another characteristic of internationalizing organizations in the advanced stage is the increasing level of formality (Leonidou & Katsikeas, 1996). Due to the increasing size of the international activities, more coordination is needed.

In summary, starting international activities requires a lot of thought for small and medium sized businesses. They have to make decisions about which markets to enter and how to do this. Resources are a limiting factor for SMEs in this process. Knowledge is one of those resources that needs to be expanded in order to enter new markets, this is all part of the internationalization process.

If knowledge is already available in the form of previous experience or networks, organizations are likely to internationalize quicker and also into markets further away from the home market. However, if knowledge is limited, an incremental internationalization process is more likely, because with this approach additional knowledge is built up step by step through entering nearby countries one by one.

Resources can also be spread too thin if multiple markets are entered at once, with the result of missing opportunities. Focussing on one key market and scanning other markets for opportunities is an option to prevent spreading resources too thin. Another option to leverage scarce resources in the internationalization process is making use of partnerships.

The internationalization process can be divided in three stages: the pre-engagement stage, the initial stage, and the advanced stage. The more knowledge and experience is gained and the more commitment is shown, the more advanced stage an organization belongs to.

## **2.3 International performance**

Whereas the concept of fit uses performance as indicator for a good fit (Harms, Kraus, & Schwarz, 2009), measures have to be defined to report performance. As this research focuses on internationalization, indicators for performance have an international perspective. This section outlines the performance indicators applied in internationalization literature.

Growth and export intensity are two widely used measures to report international performance (Cooper & Kleinschmidt, 1985). Growth is determined by an annual turnover growth rate, while export intensity is calculated as the turnover out of international activities as a percentage of total turnover (Cooper & Kleinschmidt, 1985).

It is argued that the combination of the two performance measures gives a better insight in export performance than each on its own (Cooper & Kleinschmidt, 1985). These measures, especially export intensity, have also been widely used in other export performance literature (Fernhaber, Gilbert, & McDoughall, 2008; Jantunen, Nummela, Puumala, & Saarenketo, 2008; Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009; Dhanaraj & Beamish, 2003).

It must be noted that export intensity is more a (subjective) measure for the scale of operations rather than the success of export (Jantunen, Nummela, Puumala, & Saarenketo, 2008). For example, an

organization with a small home market will more likely reach a higher intensity level than an organization with a large home market. On the other hand this subjective measure is accepted, because objective data are hard to retrieve from SMEs (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009; Jantunen, Nummela, Puumala, & Saarenketo, 2008).

Growth figures for the overall Dutch software export market average at 10.8% for the 1996-2006 period (De Groot, 2009). As this is an average growth figure, good performance may be defined as more than 15% annual growth, 10-15% as medium growth, and less than 10% as low growth performance. These cut-off points are arbitrary because they are based on average software export figures where the Dutch software export market is broadly defined, including all types of software, not only business software or business to business markets (Linders, 2008). But these are the most sophisticated statistics available for the Dutch market (Linders, 2008).

In order to get a better insight in the international activities, the scope of international activities is of interest in analysing organizations. International scope defines the number of countries an organization is exporting to and acts as an indicator for the scale of operations (Morgan-Thomas & Jones, 2009). Furthermore, it shows how organizations develop their international markets over time (Leonidou & Katsikeas, 1996).

Therefore the number of countries an organization is active in can be an indicator of good performance. This last point is not acknowledged by everyone, some argue that resources are spread too thin and that there is no focus (Morgan-Thomas & Jones, 2009; Aulakh, Kotabe, & Teegen, 2000). Even Cooper and Kleinschmidt (1985) recognize the different opinions about scope and level of performance.

International performance is analyzed by three measures: growth, intensity and scope. Although these measures are subjective in nature and are more an indicator of the scale of operations rather than profitability, they are widely used. Because SMEs are often reluctant to share delicate information about sales and profits, the measures proposed here are justified. A large scope with low intensity and low growth figures may suggest that the performance is not high for example.

To avoid misconception about the term export performance, the term international performance is used, because this covers a wider range of internationalization strategies. From the work of Johanson and Vahlne (1977) it is not clear if export consists of foreign direct sales, indirect sales or both, while the internationalization definition from Leonidou and Katsikeas (1996) includes every activity across national borders. The dimensions themselves do not need to be changed, because those are also used in other international performances studies (Aspelund & Moen, 2005).

## **2.4 The four imperatives in an internationalizing perspective**

Now that configuration and internationalization have been discussed separately, this section brings the two concepts together. As stated earlier both concepts have left out each other's principles,

although previous research on the configuration approach does look at organizational performance (Ketchen, Thomas, & Snow, 1993; Kessler & Hienerth, 2002).

The influence of each of the four imperatives on the organization and international performance is first discussed before the concepts are brought together in the model. The order of the four imperatives in the next sections does not suggest the level of importance of each individual imperative, although it is assumed that leadership and environment play an important role in the internationalization process.

#### **2.4.1 Leadership**

In the case of internationalization, an entrepreneur or leader can have a strong preference for international business and therefore proactively searches for international opportunities (Cabrol & Nlemvo, 2009). Research also shows that the internationalisation of SMEs is mainly managed by the leader without any support from an export sales team (Cabrol & Nlemvo, 2009).

With the description of the so-called simple firm, it already becomes apparent that leadership can have a large influence on how the organization operates. Knowledge and experience in international business are of vital importance if a manager wants to set up international activities (Crick & Spence, 2005; Johanson & Vahlne, 1977; Tan, Brewer, & Liesch, 2007). Organizations that internationalize early and quickly have management with knowledge and experience built up in previous jobs and organizations (Crick & Spence, 2005; Zucchella, Palamara, & Denicolai, 2007). Recruiting managers with international knowledge and experience enhances international activity, drawing the organization to the leadership imperative (Crick & Spence, 2005).

Recognizing opportunities more easily is also a result of prior knowledge and experience, even in slower internationalizing organizations (Wiedersheim-Paul, Olson, & Welch, 1978). To have managers with previous knowledge and experience is a competitive advantage and contributes to quicker internationalization compared to organizations, whose managers still have to develop this knowledge and experience (Zucchella, Palamara, & Denicolai, 2007).

Access to international networks and markets is another advantage of prior international experience (Johanson & Vahlne, 2009). In addition to already available knowledge, networks can also be used to expand a manager's knowledge and that of the organization (Crick & Spence, 2005; Johanson & Vahlne, 2009). In order to benefit from an international network, managers need to have an international outlook to recognize the value of such networks (Wiedersheim-Paul, Olson, & Welch, 1978).

With growing international knowledge and experience, commitment will grow (Johanson & Vahlne, 1977). Although uncertainty about the international environment can withhold leaders from assigning resources to international development, slowing down or not even starting internationalization at all (Tan, Brewer, & Liesch, 2007). Though commitment is a prerequisite for successful internationalization, resources need to be made available to develop networks, markets, knowledge and experience even further. The more knowledge is acquired, the larger the commitment from the leaders will be, and therefore speeding up internationalization.

### **2.4.2 Environment**

One of the stimuli to start international activities comes from the environment, or even more specific: the market. The internationalization process model (Johanson & Vahlne, 1977) indicates unsolicited orders or irregular export activities as stimuli from the environment to further consider and develop international activities. Foreign market opportunities also contribute to a firm's decision to start international activities (Wiedersheim-Paul, Olson, & Welch, 1978).

An organization's environment contains of course more than just the market. Governmental rules and regulations can raise barriers to start international activities (Arranz & De Arroyabe, 2009). On the other hand, governments can also stimulate international activities with supporting programs. For example, the Dutch government agency EVD provides a subsidy called Prepare2Start, which covers part of the costs in setting up international activities (Steensma, 2010).

Entering foreign markets involves risks, because uncertainties about the environment arise (Ripollés-Meliá, Menguzzato-Boulard, & Sánchez-Peinado, 2007). Uncertainties in the international environment can stem from lack of knowledge, experience and information about foreign markets and the cultural distance to those markets (Arranz & De Arroyabe, 2009). Taking a proactive stance towards solving uncertainties, but also seizing opportunities in the environment can lead to a competitive advantage (Ripollés-Meliá, Menguzzato-Boulard, & Sánchez-Peinado, 2007). Another way to reduce uncertainty is the use of partnerships (Daft, 2001).

Dynamic environments do not contribute to a reduction in uncertainty, neither does a complex environment. As the environment has become more global, markets change more quickly and new products are introduced in shorter time frames, resulting in a more complex and unstable environment (Daft, 2001). Daft (2001) also notes that the increase in complexity in the environment contributes to an increase in the workforce. As a result more coordination is needed (Daft, 2001), which in turn affects the structure of the organization.

Operating in an internationally oriented environment contributes to the willingness of organizations to internationalize (Hessels & Terjesen, 2010; Wiedersheim-Paul, Olson, & Welch, 1978). This international environment can contain competitors, suppliers and customers that already operate in foreign markets, even foreign organizations' presence in the home market can influence the international aspirations of an organization (Hessels & Terjesen, 2010). Again, the network the organization and its leader belong to and are operating in, is of influence in the internationalization process.

### **2.4.3 Strategy**

Once an organization has decided to initiate international activities, a more specific internationalization strategy has to be developed. Section 2.2 already discussed some internationalization strategies and their effect on an organization, this section takes a closer look at some of the export strategies. The internationalization strategy of foreign direct investment (FDI) is outside the scope of this research because the main focus is on getting an organization's product(s) on

the international market. Besides that, SMEs often lack the financial resources for FDI (Lu & Beamish, 2001).

As there are several internationalization strategies, internationalization is also a strategy in itself. Before international activities are started, some kind of event needs to trigger the organization to consider internationalization as a strategy (Wiedersheim-Paul, Olson, & Welch, 1978). There is a distinction between internal and external attention evokers that can trigger the organization to decide on expanding abroad (Wiedersheim-Paul, Olson, & Welch, 1978). Internal stimuli relate to an unique competence and excess capacity in resources, while external stimuli relate to irregular export orders, market opportunities and competition (Wiedersheim-Paul, Olson, & Welch, 1978; Tan, Brewer, & Liesch, 2007).

First of all, there is the choice for market proximity: taking a global approach versus the nearest neighbour approach. Where some studies show that a global approach is the most successful strategy (Cooper & Kleinschmidt, 1985), others argue that resources would be spread too thin with such a strategy (Morgan-Thomas & Jones, 2009; Aulakh, Kotabe, & Teegen, 2000). As a result of scarce resources, SMEs should apply internationalization strategies that utilize the limited resources to the maximum (Morgan-Thomas & Jones, 2009).

Therefore the choice of sales channel(s) becomes strategically important. Making use of partnerships and networks could be part of a low cost, but effective internationalization strategy. A combination of sales channels can also be found in SMEs starting international activities as low cost sales strategy (Morgan-Thomas & Jones, 2009; Cabrol & Nlemvo, 2009). Exploiting and focussing on a key market and simultaneously scanning for new opportunities in cooperation with partners is another option for a low cost internationalization strategy.

Product complexity is another aspect that influences the channel strategy an organization wants to pursue; the more complex products are, the more information exchange between seller and buyer is required (Wiedersheim-Paul, Olson, & Welch, 1978). Partners may not possess the extensive knowledge of the complex product, making a direct sales channel more appropriate for complex products. On the other hand, the use of agents or intermediaries opens up new opportunities for finding new international customers and it reduces risk (Hessels & Terjesen, 2010).

Finally, organizations should look at the international experience they possess. Less experienced organizations would have more success if they would follow a more gradual growth strategy in order to build additional experience and knowledge (Johanson & Vahlne, 1977; 2009). Starting with nearby countries first and expanding international activities with that growing knowledge base, would then be a more appropriate strategy for these organizations.

#### **2.4.4 Structure**

Knowledge and experience are again important contributors to the success of an organization, both influence the structure of an internationalizing organization. Learning about internationalization requires to unlearn practices and work procedures previously applied (Autio, Sapienza, & Almeida, 2000). More mature organizations have a large knowledge base which means that they may need to unlearn before

they move into a new direction. This takes time and therefore internationalization happens at a slower pace. Younger and smaller organizations on the other hand have not yet established rigid routines and as a result are better able to absorb new knowledge (Autio, Sapienza, & Almeida, 2000).

The ability to absorb knowledge more easily and also to apply this knowledge in an organization requires an organic structure (Daft, 2001). This type of organic structure, with a high flexibility and little formalization will result in a higher internationalization speed (Jones & Coviello, 2005; Zahra, 2005). This allows an organization to react better to changes and opportunities in the international environment (Miller & Friesen, 1984). If organizations are more mature and possibly more rigid, structures become less flexible and more formalized, a more incremental internationalization process is likely to be followed in this case.

In an organic organization the levels of centralization and formalization are low, which means that decisions are made at lower organizational levels and that there are few written rules and procedures (Daft, 2001). This contradicts to some extent with a SME and a simple firm, because decision making is often centralized and in the hands of the strong leader, even though formalization is low and flexibility high.

In summary, there are some aspects that appear in more than one of the imperatives: networks, knowledge and experience. These aspects are also related to each other: access to international networks gives access to more knowledge and experience and vice versa.

The leadership and environmental imperative are the largest contributors to an organization's configuration at the start of international activities, while structure and strategy fulfil a facilitating and supporting role in this process. Triggers or stimuli to start internationalization are mainly found in a wish from the leader or an opportunity in the environment.

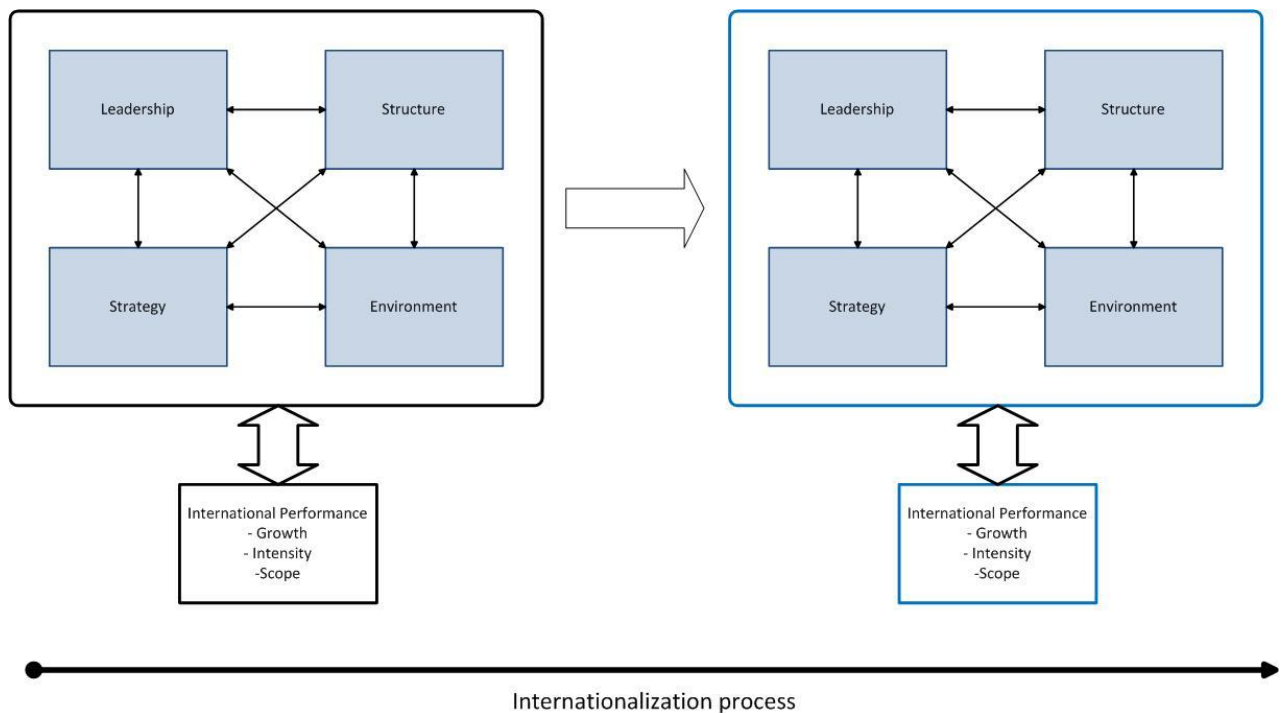
## **2.5 International configuration model**

The aim of this research is to describe organizational configurations in an international perspective and its effect on performance, therefore the configuration theory (Miller, 1987) and the export performance model (Cooper & Kleinschmidt, 1985) are brought together in the model shown in Figure 2.

The export performance model (Cooper & Kleinschmidt, 1985) uses nature of the firm, export strategies and nature of the environment as separate contributors to export performance. Though this model does not incorporate the effect of changes in one separate imperative on the others. Furthermore the model does not include leadership, while the leader is often the decision maker in a SME (Cabrol & Nlemvo, 2009).

The configuration approach (Miller, 1987) does look at how the changes in one imperative affect the other imperative(s), but on the contrary to Cooper and Kleinschmidt (1985), international performance is left out. The models do partially overlap and combining them should add further insight into how the internationalization process shapes an organization's configuration and what changes occur within that configuration.





**Figure 2: Internationalizing configuration model.**

The model in Figure 2 shows the interactions of the four imperatives and what the effect will be on international performance. Furthermore, the model also indicates how performance, or the lack of it, can trigger a change in an organization's configuration (Short, Tyge Payne, & Ketchen Jr, 2008). This is illustrated by the double-headed arrow in the model (Figure 2). Change in the overall configuration during internationalization is implied by an arrow and change in color of the figure.

A possible step in organizing for internationalization could be that there is a market opportunity in a foreign country that indicates sustainable sales. In this case the market opportunity is the trigger for the organization to adapt its strategy to accommodate international sales, followed by adapting structure and possibly leadership. The performance figures on international activities should indicate if the change within the configuration has established a fit (Harms, Kraus, & Schwarz, 2009). On the other hand a change within the configuration can also be triggered by a strong wish from a leader to enter foreign markets or expand international activities. In that case the leadership imperative becomes dominant and determines the configurational shift of the organization.

Taking a look at configuration from an international perspective also brings the concept of equifinality (Harms, Kraus, & Schwarz, 2009; Gresov & Drazin, 1997) to the surface. The wish from a strong leader to internationalize could be the trigger for this process (Crick & Spence, 2005), and forming a configuration that supports international activities follows. An unsolicited order from the international environment could also be a possible trigger for internationalization (Johanson & Vahlne, 1977). This shows that there are multiple ways in which a configuration is established.

Internationalization is described as an incremental process, whereby small, linear steps are taken (Johanson & Vahlne, 1977). This is somewhat contradictory to the configuration approach which



describes major changes in the configuration as frame breaking (Meyer, Tsui, & Hinings, 1993). Looking at the internationalization process and performance of so-called born globals, it seems that those organization do not take incremental steps, but get a significant turnover (more than 25%) from international markets within three years of inception (Jantunen, Nummela, Puumala, & Saarenketo, 2008). However, it is suggested that born globals follow the same incremental internationalization process at higher speed due to their prior international knowledge (Johanson & Vahlne, 2009).

Many of the discussed internationalization theories (Johanson & Vahlne, 1977; Cooper & Kleinschmidt, 1985; Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009; Leonidou & Katsikeas, 1996) emphasize that knowledge is an import attribute to successful internationalization. This knowledge can be obtained through prior employment or (international) networks. Taking these two into account and comparing it with configuration, leadership and environment seem the two most important imperatives in the process of internationalization. Strategy and structure seem more of secondary importance as these may fulfill more supporting and facilitating roles. A flexible structure facilitates adaptation to opportunities in the environment for example (Miller, 1987).

## 3 | Methodology

The research question already indicates that this is a descriptive research (Yin, 2003), because this research tries to get an in-depth understanding of the internationalization process of product software businesses. A descriptive research method contributes to that in-depth understanding, and therefore a descriptive case study approach fits that purpose. Furthermore, the relation between configuration and internationalization is not explicitly known or researched in the past. In the following section it is further elaborated why this research method has been chosen and also which procedures have been used to gather and analyze data.

### 3.1 Case study

A case study approach has been chosen for the reason that a more in-depth analysis can be made of other software businesses (Verschuren & Doorewaard, 2007). Configuration is a complex phenomenon and may not be well-analyzed by conducting surveys. Furthermore configuration entails different interactions that affect the organization as a whole and case studies are very suitable to look at units as a whole (Verschuren & Doorewaard, 2007).

Another reason to choose case studies as research method is that the process of internationalization is being investigated over a period of approximately five years and how this has changed organizational configuration. This makes the research suitable for a retrospective case study approach (De Vaus, 2001).

### 3.2 Case selection

In this research strategic sampling has been applied to select the cases (Verschuren & Doorewaard, 2007). Others call it non-probability sampling when cases are selected on more subjective grounds (Saunders, Lewis, & Thornhill, 2009). This kind of sampling makes it possible to select cases that are extremes on the variables; the cases show good international performance for example, this is also called extreme case sampling (Saunders, Lewis, & Thornhill, 2009). Using extremes has to make the organizational configurations in relation to international performance more clear, because the relations are not known yet. Software businesses used in this research were mainly drawn from Sigmax's network, but in order to prevent bias, other channels were used to find suitable cases as well.

Four cases have been analyzed on their international performance and configuration. Selecting less than four cases could threaten theory development and empirical grounding (Eisenhardt, 1989). The cases were selected on similar characteristics in order to achieve replication (Yin, 2003; Eisenhardt, 1989; Saunders, Lewis, & Thornhill, 2009). Apart from performance, the cases were selected on industry, size, ownership structure and years of international activity. These reflect similar characteristics to that of Sigmax, this is a requisite for making the research more applicable to the situation of Sigmax.

The aim of this research is to describe which configuration(s) lead to successful internationalization within five years after the start of internationalization; the cases need therefore be internationally active for at least five years. Apart from a minimum number of years of international activities, there is also a maximum of ten years of international activity. The reason for this is that information cannot be recalled so easily from the memory of managers or managers have been replaced in the meantime, these events result in loss of data (De Vaus, 2001).

Furthermore, as Sigmax is built on private capital, the organizations used for the case study also have to be financed with at least 70% private capital. Finally, the cases have to deliver solutions for process automation in the business software industry and have no more than 250 employees at the start of their internationalization. This is the maximum number of employees for organizations to still be classified as a small and medium-sized business (European Commission, 2003; Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009).

### **3.3 Data gathering**

Analyzing organizations is performed by describing the cases of successful internationalized product software businesses. Product software businesses are defined as organizations that develop and produce software code (Hoch, Roeding, Purkert, Lindner, & Muller, 2000). Semi-structured interviews with managers who are responsible for the international activities were used to obtain the necessary information for describing and analyzing the cases (Kuivalainen, Sundqvist, & Ser, 2007). I was accompanied by members of Sigmax' management team during two of the four interviews, because some of the interviewees are personal or business relations of the management team.

In order to get a picture of the configuration of the company at the start of internationalization, aspects of strategy, structure, leadership and environment have been discussed and its effect on international performance. A guiding list of topics and interview questions can be found in the appendix. Furthermore the development of the company over the first five years of internationalization is of interest, because that should make the relation between international performance and configuration more explicit and useful for the Sigmax case.

To establish a more in-depth analysis, a small (email) survey with the interviewees was conducted before the interviews took place. This little survey focuses on figures of international sales, growth, number of employees and some more figures (see appendix 1 for a more elaborated list). Apart from the fact that this gave more time for discussion about the imperatives and the internationalization process, it was also a good preparation for the interviewee as well.

The performance figures used in this research are self-reported by the interviewees, as this information is not publically available (Lages, Lages, & Lages, 2005). Furthermore, SMEs are often reluctant to share delicate information about financial figures (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009; Jantunen, Nummela, Puumala, & Saarenketo, 2008), therefore self-reporting of subjective performance measures was used.

By supplying a list of topics and asking for information beforehand, the interviewee got an indication of the direction the interview would go and the interviewee could prepare for that (Saunders, Lewis, & Thornhill, 2009). Making use of more than one source of data, records of a company's performance figures and the interview, provides the research with triangulation (Verschuren & Doorewaard, 2007) and improves validity and reliability (Saunders, Lewis, & Thornhill, 2009).

### **3.4 Data analysis**

After the data has been collected it needed to be processed. The first step in processing the data was making transcripts of the recorded answers. The data was processed shortly after an interview took place, because this prevents interpreting data differently by the interviewer (Saunders, Lewis, & Thornhill, 2009). The transcripts were sent to the interviewees to check for completeness and correctness before further analysis took place.

The interview transcripts were then used to make descriptions of the studied cases and to find similarities between the cases. The cases are described using topics that played an important role during internationalization. An additional timeline of the organization is mainly used to indicate the international market development, but also shows some decisive events in the internationalization process.

Analyzing multiple software organizations has to contribute to the understanding of configuration and its relation to international performance. Describing configurations that result in good international performance has to make clear which events and decisions in an organization have changed the organization to its specific configuration in the process of internationalization. This understanding can help Sigmax to configure their own organization in the best possible way.

In order to analyse the changes in the configuration of internationalizing software organizations, three stages in the internationalization process were used, based on the work of Leonidou and Katsikeas (1996) and Johanson and Vahlne (1977). The pre-engagement stage involves the idea development of internationalization and some first international stimuli and activities. In the second stage, the initial stage, organizations start to expand its business in nearby markets to gain experience. And in the advanced stage, international activities have become an integrated part of the organization (Leonidou & Katsikeas, 1996).

The model of configuration and international performance outlined in Figure 2 is a tool to support this process. Although there are multiple configurations possible with equal performance results (Miller & Whitney, 1999), organizations should choose one that fits best. Again, this approach has also been used in order to organize Sigmax for its international activities.

### **3.5 Focus group**

As the interview analysis have to contribute to the organization of Sigmax's international activities, it is also important that a certain configuration fits the organization. Therefore an extra research method

was added to this research: a focus group was used for triangulation of the gathered data (Morgan, 1988).

The focus group contained five participants from within Sigmax, who have gained international experience in previous employment. Before looking at the interview data, their experience and views on internationalization were discussed and what hurdles they had to overcome to survive in the international market. The data from the interviews is used as input for the second part of the discussion where the participants could share their views on the findings.

The input from employees is important, because the internationalization plan needs to be supported organization wide. This focus group has to make clear which method or path of internationalization is most supported within the organization, and how it alters the configuration. The combination of data from internationalized product software organizations and Sigmax's international experienced employees should contribute to the creation of a good fit between the organization and the internationalization process.

In order to give the participants the opportunity to elaborately share their experiences, the focus group consisted of five participants (Morgan, 1988). A moderate sized group allows the participants to express their experiences and opinions in such a way that the desired level of information sharing is reached. The data analysis of the focus group was similar to that of the case interviews. Furthermore the data is primarily used to provide input for the recommendation section.

## 4 | Results

Not available.

## 5 | Discussion

With the results of the individual cases presented in the previous chapter, this chapter discusses the similarities and differences within the four cases. The main similarities between the four configurations are summarized in [Table 2](#). Where conflicting characteristics were found, the best performing characteristics are included in the table.

### 5.1 Pre-engagement stage

Triggered by multiple stimuli (Tan, Brewer, & Liesch, 2007), internationalizing has been a deliberate choice for most of the organizations. The size of the Dutch market, or even the lack of size, was one of the main reasons to start international activities. The development of software is costly and therefore a large market is needed to recover the costs. To do that, economies of scale were a necessity and this could be found in international markets according to the organizations.

Although internationalization is a deliberate choice, strategy has not been directly at the forefront in the first stage. Instead, the organizations show a lot of signs of the simple firm (Miller, 1983) in their international start. Leadership and environment are the overlying imperatives in the first stage of the internationalization process, where the organizations are still flexible to react to changes (Miller, 1987). This does hardly differ between the four organizations; some are more led by the environment, where others are more led by the leaders. But it is these two imperatives that play the largest role in the first stage.

Another prominent aspect in the pre-engagement stage is the availability of standard products. All the organizations assured themselves of standard, well working products before they entered the international market. If products would not work well, the risk of a damaged reputation is too large, especially for a foreign organization that is new in the market. Apparently the market demands are perceived to be globally determined which make product adaptations largely unnecessary (Morgan-Thomas & Jones, 2009), though small changes are sometimes needed to fulfil local requirements.

Internationalization strategies have developed along the way and by trial and error more direction has been given to further international expansion. Organization B is the only exception with a deliberate strategic choice for integrating their product in a partner's product to enter the international market. This strategic choice has given organization B entrance to a large international network.

The main driver to make internationalization work in the first stage comes from a leader who is motivated by opportunities in the environment. Perseverance and vision are two aspects that are characteristic for the leaders who have started international activities. Furthermore, the first international steps of an organization do not involve large changes in the configuration of the organization.

## 5.2 Initial stage

Internationalization has taken place in an incremental manner from the start into this stage, where nearby countries were the first markets to be entered (Johanson & Vahlne, 1977; 2009). The first steps in the international market are often cautiously taken, few organizations are willing to take too large risks and resources are also scarce (Brouthers, Nakos, Hadjimarcou, & Brouthers, 2009).

In the second stage of the internationalization process the configuration starts to change. Due to growing experience and knowledge about international business, the organizations can better foresee how events will unfold. With this in mind and to even better anticipate to certain circumstances, organizations start to put more emphasis on strategy, especially at the end of the initial stage. Build up experience in the first one or two countries is then used for faster expansion in other international markets (Johanson & Vahlne, 1977; 2009).

Even though strategy becomes more important for the organizations, it still serves as a supporting tool for the leader. In the decision making process of a leader, strategy is used to stick to chosen directions and test if new opportunities are in line with the chosen direction (Siggelkow, 2002). Due to a more strategic view, organizations are better able to keep a focus on the process of international market development.

The simple firm configuration still mainly characterizes the organizations' configuration in the initial stage of internationalization. However, as more planning and focus start to emerge, features of the planning firm are being incorporated into the configuration of the organization. This development is most visible during the end of the initial stage when an organization is even more experienced and working towards the advanced stage.

In the initial stage of the internationalization process, a simple firm configuration can perform well as shown by organization A. It achieves a good annual (international) growth rate and intensity is also steadily increasing, while still one single person is taking care of international market development. Though the organization does notice that the speed of international development is limited with a single person responsible for international expansion.

Whereas organization C is also mainly configured as a simple firm, it is not able to achieve these performance figures. The difference between these two organizations is the control the leaders perform. Tight control by a single person slows down the development, whereas organization A's leader gives his international offices the freedom to achieve their goals in their own way.

## 5.3 Advanced stage

Although strategy rises more to the forefront later on in the internationalization process, leadership and environment still play an important role. Opportunities in the market are still an important factor in the decision to enter a certain market and the leader still makes such decisions. The difference with earlier internationalization stages is that the decisions on opportunities in the market are in line with the organizations' strategy. The organizations are trying to create a good fit between the organizations' configuration and its environment (Harms, Kraus, & Schwarz, 2009).



Since organization D started international activities, the organization has grown so large that it has become difficult to change the course of the organization if needed (Miller, 1987), especially the home office. This indicates that the organization has moved towards the planning firm configuration (Miller, 1983). Although organization A has not fully achieved the advanced stage, it also has reached a size that changing the organization and its products becomes painful and the more rigid configuration of a planning firm starts to impede on the organization.

The increased focus on strategy and changes within the structure to better support international activities have resulted in good performance in the advanced stage. Comparing the two organizations that fully achieved the advanced stage, adhering the characteristics of the planning firm configuration fits best with internationalization. With the focus on strategy, organization D has achieved better performance than organization B. Although the organizations should prevent to become too rigid, because their ability to react to opportunities in the past has enabled them to expand internationally.

Strategic considerations made in earlier stages of the internationalization process by organization B and D have most likely contributed to the achievement of a world orientation (Cooper & Kleinschmidt, 1985). Although the achievement of a world orientation should result in better international performance, the figures of organization B show differently. Annual growth is only 1%, although the growth in the international markets is high with an annual growth rate of 58%.

The choice of sales channel may have also played a role in the performance of the organizations (Leonidou & Katsikeas, 1996). Whereas organization B stuck to a single indirect sales channel, D has used indirect sales channels to cover areas it is not yet active in with direct sales channels. The use of indirect sales channels in addition to direct sales channels allows organization D to scan for new opportunities in other markets with limited risks (Morgan-Thomas & Jones, 2009).

The mentioned changes that appear in the advanced stage do not necessarily have to occur in this stage. The larger part of these changes already take place at the end of the initial stage, preparing the organization for a transition to a configuration that fits the advanced internationalization stage. Therefore the advanced stage does not involve major changes but the changes that have taken place at the end of the initial stage have now become visible. As a result of the changes a better fit is created between the organization's capabilities and its environment (Beer, Voelpel, Leibold, & Tekie, 2005; Harms, Kraus, & Schwarz, 2009). An increase in performance, both scope, intensity and growth, indicate a better fit.

## **5.4 Configurational changes over time**

Table 2 summarizes the main changes that take place within configurations during the internationalization process of the four cases as discussed in section 5.1 through 5.3. Starting with the main characteristics of a simple firm like configuration in the pre-engagement stage, towards a more planning type of firm in the advanced stage of internationalization.

	Pre-engagement stage	Initial Stage	Advanced Stage
Leadership (leader)	<ul style="list-style-type: none"> <li>– Initiator</li> <li>– Driving force</li> <li>– Vision</li> <li>– Centralized power</li> </ul>	<ul style="list-style-type: none"> <li>– Experience: Market and network developer</li> <li>– Vision</li> </ul>	<ul style="list-style-type: none"> <li>– Commitment to strategy</li> <li>– Decentralized power</li> <li>– Experienced</li> </ul>
Environment	<ul style="list-style-type: none"> <li>– Unsolicited orders</li> </ul>	<ul style="list-style-type: none"> <li>– Provides opportunities</li> <li>– Nearest neighbour</li> </ul>	<ul style="list-style-type: none"> <li>– Fit with strategy</li> <li>– Global approach</li> </ul>
Strategy	<ul style="list-style-type: none"> <li>– Guided by the views and vision of the leader, not specifically expressed</li> <li>– Trial and error</li> </ul>	<ul style="list-style-type: none"> <li>– Guided by the views and vision of the leader</li> <li>– Planning and focus start to emerge</li> </ul>	<ul style="list-style-type: none"> <li>– Explicit strategies and plans for international activities</li> <li>– Global approach</li> </ul>
Structure	<ul style="list-style-type: none"> <li>– Remains unchanged</li> <li>– Flexibility to cope with new circumstances</li> <li>– Standard product</li> </ul>	<ul style="list-style-type: none"> <li>– Responsive adaptation to the environment</li> <li>– Flexibility</li> </ul>	<ul style="list-style-type: none"> <li>– Restructured units to provide better support</li> <li>– Less flexibility</li> <li>– Multiple sales channels</li> </ul>

**Table 2: Internationalization stages and configuration**

The elapsed time between the pre-engagement and initial stage varies between the cases. Whereas organization B only needed approximately one year, it took organization C at least six years. Organization A and D reached the initial stage in approximately two and three years respectively.

A clear distinction between the first two stages is not very easy to observe, the transition between the two stages takes place in a gradual manner without a true turning point in most cases. The absence of a clear turning point can be noticed by the minor changes that take place in the organizations' configuration, indicating an incremental internationalization process (Johanson & Vahlne, 1977). Changes that do take place involve small adjustments to the new situation in order to reinforce international activities within the organization (Siggelkow, 2002). The dominant imperative, in most cases leadership, remains dominant, although other imperatives have gained importance.

Larger changes in the configuration start to occur when organizations are about to enter the advanced stage of internationalization, as described in section 5.3, but this does not necessarily has to happen after a specific number of years. Organization D has entered the advanced stage after a time period of approximately ten years, while organization A did this after eight years of international activities. Organization B has done it in a much shorter time period of only two years.

The strategic consideration made by organization B in the pre-engagement stage, to integrate its product with SAP in order to access an international network, is the main reason to enter the advanced stage in such a short time period. Although organization D has not made such strategic considerations in the pre-engagement stage, once it applied strategic focus at the end of the initial stage, international

development has taken off. Both cases imply that strategic focus and commitment to strategy increases international market development.

## 6 Conclusion and recommendations

This research started with the question of how organizations have to organize themselves for internationalization. The configuration approach and several internationalization theories have been discussed to try to resolve that problem of organizing for internationalization and together with the gathered data find an answer to the proposed research question:

***"How do the four configurational imperatives change in the first five years of the internationalization process of SMEs in the product software business?"***

In this chapter conclusions are drawn based on the gathered data from the case studies and the studied literature. Furthermore the limitations of the study and future research directions are being discussed. In the final section, recommendations are made to product software organizations, and Sigmax in particular, on how to configure an organization for international activities.

### 6.1 Conclusion

Before anything can be stated about changes in the configuration of product software businesses, the configuration of the organizations at the start of internationalization needed to be described. Furthermore, to organize for successful internationalization the performance of the configuration and its changes have to be taken into account. This research has tried to do so.

The results show that the configuration of an internationalizing organization does not change tremendously in the first stage of internationalization. This supports the idea that organizations develop international activities in an incremental way and gain experience in the process (Johanson & Vahlne, 1977; 2009). Table 2 in chapter 5 already displays how the configuration has changed during the internationalization process of the researched cases.

Changes that do occur in between the pre-engagement and initial stage are minor and aimed at streamlining international operations. Organizations' growing experience in the international environment triggers these changes. Although these minor changes involve all the imperatives, the leadership imperative is still the main driver behind internationalization with the other three imperatives in place to support the leader's vision and preferences like in a simple firm (Miller, 1983).

As the results from the case study show, development of international markets in the first two stages of internationalization is in the hands of a single leader. As the activities are performed and controlled by a single person, changes in the configuration are probably not necessary in the first place. This also indicates that internationalizing organizations are configured according to the principles of a simple firm (Miller, 1983).

Larger changes in the configuration of internationalizing software businesses start to occur between the initial and advanced stage. These changes do not happen after a specific number of years, but depend on the level of commitment and resources organizations are willing to allocate. Stronger

emphasis on strategy, together with changes in the structure, are the main signs that show a move towards the advanced stage. At this point some kind of acceleration takes place which drives the organization forward, speeds up the internationalization process and increases performance.

The main change towards the advanced stage involves strategic focus. Experience teaches organizations that entering the international market with a too diverse product portfolio spreads resources too thin and attention to clients is diluted. A clear choice for a single product-market combination per international market provides the needed focus. This change shifts the organization towards a configuration where strategy becomes more at the forefront and supporting in decision making. New opportunities are only act upon if those are in line with an organization's strategy, implying that organizations try to create a fit between strategy and environment (Beer, Voelpel, Leibold, & Tekie, 2005).

Structural changes also start to surface between the initial and advanced stage, primarily nursed by the changes in strategy. In order to facilitate fit with the environment, separate units or departments are established for the international activities. Further structural changes involve the international sales channels, if not yet in place, additional sales channels are established to cover areas an organization is not yet willing or able to be active in. Partners and countries are strategically chosen to achieve the best performance from these strategic sales channels.

In contrast with the internationalization process model (Johanson & Vahlne, 1977), this research shows that most organizations start with direct sales channels, rather than with indirect ones. This is more in line with highly internationalized organizations that started the process with limited resources (Cabrol & Nlemvo, 2009). Only in the later stages of internationalization, indirect sales channels may become part of the organizations' internationalization strategy.

The elapsed time between the first stage and entering the third stage varies between two and ten years in the researched cases. Organizations that started the international process with a more strategic emphasis enter the advanced internationalization stage in a shorter time period indicating a higher readiness level (Tan, Brewer, & Liesch, 2007). Previous experience of the leader (Crick & Spence, 2005; Zucchella, Palamara, & Denicolai, 2007) does not give conclusive results about the time to develop international markets in this research.

In general it can be stated that international activities develop in an incremental process (Johanson & Vahlne, 1977) in which the configuration of the organization changes in a more frame breaking manner as described by configuration theories (Miller, 1987; Meyer, Tsui, & Hinings, 1993). In the first stage of internationalization the organization operates as it has done in the past, but with internationalization as new element to the organization misfit emerges (Beer, Voelpel, Leibold, & Tekie, 2005; Harms, Kraus, & Schwarz, 2009) and changes in the configuration start to occur during the initial stage. These changes are needed to integrate this new element in the configuration of the organization (Siggelkow, 2002) and to realign the organization with its (new) environment.

Once internationalization has become an integrated part of the organization, little more changes are implemented during the advanced stage. This indicates that the initial internationalization stage is a

period of configurational change, whereas the pre-engagement and advanced stage are periods of relative calm. In the advanced stage internationalizing organizations have found a fit between their environment and capabilities (Beer, Voelpel, Leibold, & Tekie, 2005) and little changes are needed, until misfit emerges again.

As the configuration approach already postulates, there are multiple ways to become successful or perform well, the so-called idea of equifinality (Harms, Kraus, & Schwarz, 2009), is also presented by the researched cases. Although the cases achieved performance by different means, some similarities can be found. Vision and commitment from the leader(s), standard product and direct sales channels are the most distinct similarities to be found.

In addition to the research question, and in reflection to the research problem: how to organize for internationalization, the following can be concluded. Organizations that want to start international activities need to have a strong leader that can create commitment to international activities within the organization. The first international activities have to be performed by this leader with additional support from the home office.

In order to keep a focused view on the activities and opportunities, an organization needs to express its internationalization strategy to its employees, so that everybody knows where the organization wants to go. The simple firm configuration applies in this stage of internationalization, although an organization's strategy needs to be clearly expressed, this on the contrary to the simple firm characteristics.

In the initial and advanced stages of internationalization, organizations have to focus even more on strategy, though flexibility is still important. Focus on few products and few markets allow organizations to achieve better performance. In addition to direct sales channels, partnerships can contribute to further international expansion in the case products are standard and not too complex. The increased focus means that organizations have to change their configuration towards that of a planning firm, although the flexibility of the organic and simple firm should not be excluded from the configuration.

## **6.2 Limitations**

With limited knowledge available in the literature about configuration in the perspective of internationalization, the applied research method had to be explorative. Together with a limited number of cases, generalizations about the configuration of an internationalizing software business may not be fully applicable to a larger population. Therefore, explanatory research is needed to make generalizations applicable to a larger population.

The small sample size also makes it difficult to make general statements about the performance of the cases. With the lack of industry figures, comparisons are made between the four cases, rather than between a complete industry. The four cases do show differing performance figures, therefore cautious statements about the most suitable configuration can be made. Future research should contain a larger sample of product software organizations in order to test the results of this case study.

The selection of the cases can also be assessed as arbitrary, because cases were chosen from Sigmax's network. This purposive selection of cases can be justified by the explorative nature of the research where specific characteristics were of interest. Future research should contain cases from a larger population to do more extensive research on configuration in an international perspective.

The sequence of data gathering may be assessed as incorrect, but in this research I think that is justified. By discussing the (international) experiences of Sigmax's employees after the case studies were performed, gave the employees the opportunity to comment on the results and its applicability for Sigmax.

As this research is explorative and puts separate concepts together, some choices for describing the cases can be assessed as arbitrary. Although the internationalization stages are based on the review of empirical models (Leonidou & Katsikeas, 1996), the authors themselves already note that clear cut off points between the stages in the internationalization process are missing in the literature. By looking at changes in an organizations' configuration, this research has tried to make the transition between stages more specific. Although more research is needed to empirically test the relation between internationalization stages and changes in configuration.

Self reported figures may also influence the result of the study, especially those that are requested from earlier years. In the latter, loss of data is possible (De Vaus, 2001). Longitudinal case studies can provide better reporting and prevent loss of data in order to get a better understanding of how an organization's configuration changes during the process of internationalization in relation to an organization's performance.

### **6.3 Recommendations**

Not available

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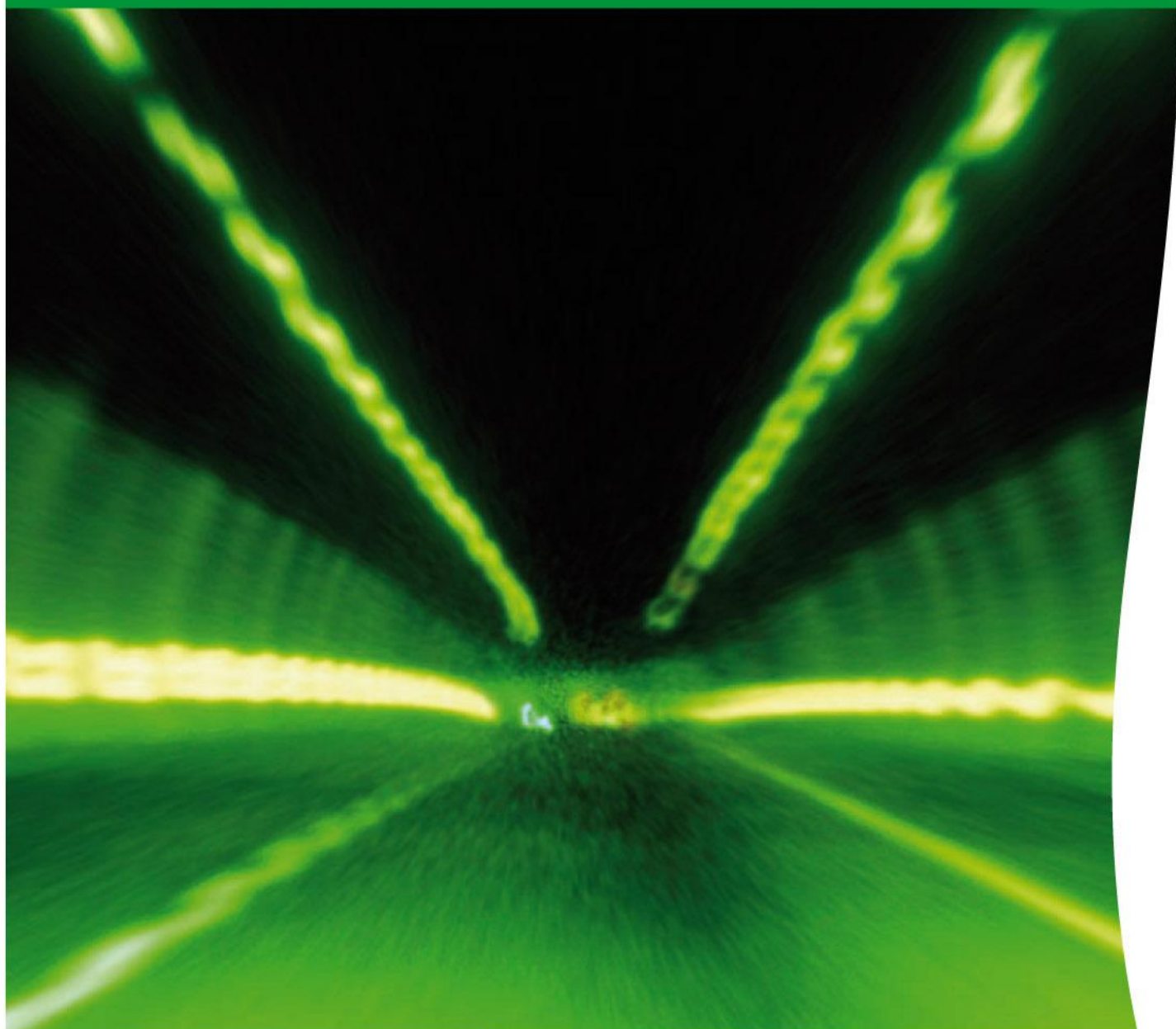


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# Appendices



## Appendix 1: Interview guide

Before the interview was being conducted, some data of the organization was gathered. This data gives information about internationalization after the first year and after the fifth year (unless otherwise stated) of internationalization:

- Age of the organization at the start of internationalization
- Number of employees (at the start of internationalization and 5 years after start of internationalization)
- International sales growth (in %)
- International intensity (international sales/total sales in %)
- Main foreign market(s)

The interview concentrated on the four imperatives of an organization's configuration and their relation with international performance. These four imperatives are: leadership, strategy, structure and environment. The following list was used as a guide during the interview to gather data on the four imperatives and performance:

- Strategy
  - How did your organization prepare for internationalization?
    - Why did you want to start international activities?
    - Which steps were taken?
    - How were markets selected?
  - What is your current international strategy?
  - On which kind of international markets do you focus?
    - Global vs. nearest neighbour + number of countries
  - How do you segment the international markets/countries?
  - How are products placed in the international market?
    - Product adaptation, product readiness
    - Key differences in product and service portfolio nationally and internationally > adaptation and segmentation
  - Which entry mode did you apply in entering international markets?
    - How has this changed during the first five years of internationalization?
    - Indirect sales: agents, subsidiary, partnership
  - Has strategy changed (dramatically) in the first five years of internationalization?
    - Can you describe this change?
    - What was the reason for this change?
    - When did the change happen?
- Structure
  - Where are decisions (about internationalization) made?
    - Is it easy to get permission for new ideas?
    - Can you give an example?
    - How has this changed during the internationalization process?
  - What kind of structural changes has the organization gone through?
    - What triggered these changes?

- When did these changes take place?
- How does the organization react to changes/uncertainties?
  - Can you give an example?
  - Is this the usual reaction to change/uncertainties?
- How does the organization use formal work procedures?
  - Are work procedures written down?
  - How has this changed during the internationalization process?
- How are international sales organized?
  - Is there an international sales department?
  - Delivery of products and related services?
- How many employees are involved in the international activities?
  - What kind of functions do they fulfil?
- Leadership
  - What is the influence of the founding CEO on the organization?
  - How does management show commitment in the process of internationalization?
    - Can you give an example?
    - Was there commitment of the management team at the very first start of internationalization?
  - What is your previous international experience?
    - Can you describe your previous function/experiences?
    - Was this previous experience useful, did it accelerate internationalization?
  - What kind of risks would you take in the international markets?
    - High investments in uncertain markets?
    - Reliability of partners, how do you select your partners?
    - How do you investigate the risks of international markets?
- Environment
  - Does the market/environment change often?
    - Can you give an example of it and how it has affected the organization?
  - How is the competition organized?
    - What is the influence of the competition on your strategy?
  - How does the organization react to changes in the international market?
    - Is the market leading in organizational decisions?
    - How does the organization adapt to changes in the (international) market?
- Performance
  - What were the performance goals at the start of internationalization?
    - Growth, intensity, scope?
    - Have sales goals been reached in the projected period?
    - Did national sales grow after internationalization?
    - How has internationalization influenced organizational performance
  - Have sales goals been adjusted to the circumstances?
    - What was the main reason for this?
    - What organizational changes have been made to improve performance?
- Looking back at the internationalization process, what would you have done differently?
  - Why?
  - How did you experience the process of internationalization yourself?