Sustainable Competitive Advantage at Atlas North America

Bachelorthesis Erik vd Pieterman
Student Business Administration
S0207322

Management summary

This paper is the result of my bachelorthesis about growth at Atlas North America, a subsidiary of the Atlas Elektronik Group.

The objective of this research is to analyze the company based on the resource based view, extend it with the concepts of dynamic capabilities and core competencies, and subsequently look for possibilities for growth. Taking on the resource based perspective means that the level of analysis is the input of the production process, the resources and capabilities which are used to compete in the market. This is a different view than looking at the factors of the industry in which the firm competes. The advantage of the RBV is that resources which contribute, or have the potential to contribute to financial performance can be identified. Management has often more control over the resources of the firm than over the industry factors which shape the competitive environment. The disadvantage however is that it gives an incomplete picture of the company, leaving out micro and macro environmental factors which can have considerable impact on the firm.

The objective for the management is to achieve growth, which is defined as an increase in financial performance. In order to advice the management on how to achieve this growth, a theoretical framework discussing the relevant concepts and theories was set up. Following that, measurement instruments were developed to identify and measure the theoretical concepts such as resources, dynamic capabilities and core competences. The data about these concepts which was collected using these measurement instruments was analyzed. This resulted in several conclusions, from which the most important findings and recommendations for the management are summarized below.

- The relationships which groups of employees within Atlas NA have with the environment are considered very valuable to the company, and difficult for competitors to imitate. This resource has the ability to provide a sustainable competitive advantage, and management should be aware of the importance of these relationships.
- Hire employees who have a network of relationships with the environment, and have knowledge and experience in the industry. Employees who possess these attributes will contribute considerably to the financial performance of the firm.
- Atlas North America should not rely too heavily on the technology from the headquarters in Germany. This technology is likely to be substituted by competitors in the future.
- Increase the complexity of the relationship with the headquarters to acquire knowledge, so that it becomes a sustainable competitive advantage. Increasing the complexity of the relationship will increase the sustainability of the resources.
- Focus on the capabilities of integrating resources to further improve the quality of the service for the customers. Service is an area in which Atlas North America excels and adds significant value for the customer.
- Develop dynamic capabilities which can replace the formal procedures for attracting new resources. Formal procedures for attracting resources are too structured in an environment which is subject to rapid change. Management routines should replace these procedures.
- Atlas North America should align their competences in the service provision with the rest of the business units in order to make the service provision a core competency. This will allow them to access new markets and increase their business.

Preface

This thesis is the result of my stay at Atlas North America in the United States of America. The purpose of this thesis is to graduate from my bachelor program in Business Administration at the University of Twente in the Netherlands.

My stay at Atlas North America did not go without challenges, but ultimately I have learned some valuable lessons from it. My thanks go out to Mr. Diehl who took me in his house, to his son Chris, who showed me around in Virginia Beach, to my supervisor dr. Zalewska who must have been very patiently and put a lot of time into the final stage of my thesis, and to my father, who took the time to help me when he already was so busy.

Virginia Beach – USA
Enschede – The Netherlands
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Erik van de Pieterman

Inhoud

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Chapter 1 Introduction

1.1 The environment

Atlas North America is situated in the United States of America. The USA only has little over 300 million inhabitants, but nevertheless has the biggest economy in the world. It's GDP is 15 trillion, and accounts for 22% of the total world production according to the IMF. The US are a superpower, which has worldwide interests to protect. To be able to protect these interests, the US has built the biggest, most expensive army in the world. Because of the economic crisis which has led to a enormous trade deficit for the US, cutbacks on military spending are inevitable. The government wants to reduce costs by 259 million dollar in the coming 5 years. However according to the management at Atlas, the cost reduction will probably not affect the niche in which they are operating which is the mine warfare market. This is due to global developments which force the government to invest in this market. An example of such a development is the increasing tension in the Middle-East, more specifically the Persian Gulf. Iran is threatening to close the Strait of Hormuz, and they will do this by planting sea mines in the gulf. Since 35% of all seaborne oil is transported through this strait, the US government are likely to take countermeasures if this happens. In order to do this they will need mine countermeasures because this will be the weapon Iran is most likely going to use. Atlas has a cost effective anti mine device called the Seafox. This is the only working device currently on the market, and that is why they got the order to install the Seafox on US navy ships. However, this order has been given to Atlas because they had superior technology and the government was in dire need of the equipment. According to the management, the defense industry is highly competitive and has a lot of players with a multibillion dollar revenue. It will be a challenge to compete with these multinationals which have a lot more resources available.
To sum up, the US defense industry spending is enormous, and although there are cutbacks in the spending and the competition is high, opportunities still remain for a company that can adapt to the changing global and national circumstances.

1.2 The company

Atlas Elektronik Group.
Atlas North America is a wholly owned subsidiary of the Atlas Elektronik group. Atlas Elektronik is a company in the defense industry, which focuses on maritime security. They provide sonar technology, minehunting systems, naval weapons and combat systems. They are situated in Bremen, Germany and they employ a staff of 1970 with a 440 million euro yearly revenue. The mission of Atlas Elektronik is to make their technologies and systems the standard for maritime security on all of the world's oceans, and thereby making the sea a safer place.

Atlas North America
Atlas North America is one of the subsidiaries of Atlas Elektronik. It was established one and a half year ago in order to capture a share of the American defense industry. Atlas chose to set up a new company because the American defense industry is difficult to serve through exporting. This is because there are very strict safety regulations to be followed by companies outside the US, and there are various export restrictions regarding military technology. Also establishing an office locally makes it easier to build a reputation in the market, which is important to get orders from the

government. The corporate mission is to develop a foothold in the American mine warfare market and to supply the US navy with products which help them to deal with tomorrows threats.

At the moment there are six people working for Atlas NA. An organizational chart can be found in the appendix. The current focus is on selling products which are developed by the headquarters, Atlas Elektronik. By doing this Atlas NA wants to become the dominant player in the mine warfare market within three to five years. Long term goals include the establishment of R&D and manufacturing facilities. Atlas NA recently got an order to supply the US government with the Seafox system. This twenty-five million dollar contract has made the company self sufficient for the time being.

The mission of Atlas North America is to develop a foothold in the American anti mine warfare market and to supply the US navy with products which help them to deal with threats.

1.3 Problem definition

Atlas NA needs to grow in order to get self sufficient and also to sustain in the future. Companies which do not grow will eventually get out of business (Kazanjian & Drazin, 1990). Recently ANA has won a twenty-five million dollar contract for supplying the Seafox system to the US navy, which means they are self sufficient at the moment. However they need to grow in order to also sustain in the future and to meet objectives set by the corporate headquarters in Germany. Atlas NA wants to become the dominant player in the mine warfare market. To achieve all these objectives, Atlas NA has to increase their business practices. This paper takes on a resource based view of the organization, therefore it will investigate ways of growth by increasing the resource base at Atlas NA. The time span will be the coming three years because Atlas NA is operating in an industry which is dynamic because of sources of market uncertainty, technological uncertainty and competitive volatility.

The central research question has been formulated as follows:
'*How can Atlas North America expand their current resource base to achieve sustainable competitive advantage?'*

This central question will be answered by analyzing the following sub question:
'What resources, dynamic capabilities and core competencies does Atlas North America currently have to achieve sustainable competitive advantage?'

1.4 Research objective

The objective of this research is to make an internal analysis of the company Atlas North America using the resource based view, and extend that with the concepts of dynamic capabilities and core competencies in order to get an understanding about the resources and capabilities which make up the organization. Knowledge about the resources, capabilities and competencies should lead to a better understanding of sustainable competitive advantage and therefore recommendations on how to improve financial performance.

Chapter 2 Theoretical framework

2.1 What is growth?

Growth is important for organizations (Baum et al., 2001). Without growth, firms are not viable in the long term. This is especially true for small and new ventures (Kazanjian & Drazin 1990). In the absence of growth, they are confronted with smaller chances of survival (Gilbert et al., 2006). This is because unlike established firms, new ventures are subject to the liability of newness. According to Gilbert et al. (2006) there is therefore a difference between established firms and new ventures. Established firms need to grow in order to sustain viability, while new ventures need to grow in order to obtain viability. So Atlas NA has to grow in order to keep the business running. Furthermore the aim of the company is to make profit. The management of Atlas NA wants to increase their financial performance as much as possible. This paper therefore defines growth as an increase in financial performance. This is because the paper will explore the concept of sustainable competitive advantage and there is consensus in the literature that sustainable competitive advantage leads to increased financial performance (Barney 1991, Grant 1991, Ford & Mahieu 1998, Collis and Montgomery 1995, Fahy, 2000). Therefore the assumption is made that more knowledge about the current and potential sustainable competitive advantages of the firm will lead to a better understanding of the management of these sustainable competitive advantages and therefore the ability to increase or exploit these advantages to a fuller extend. This will lead to a better financial performance which is the desired outcome for the management.

2.2 Resource based view

In the last few decades two theories of competitive advantage in strategic management have dominated the debate. The first one is based on Porter's (1979) five forces framework. Porter's five forces sees the industry and environment as determining factors of firm performance. The strength of the suppliers, customers, substitutes, new entrants and competitors will have considerable impact on the overall industry profitability. This industry profitability will be a direct detriment of the firm's financial performance. It sees firms as homogeneous, meaning that depending on the industry, firm's will behave in the same way and achieving the same results. The other theory is the resource based view. This theory originated in the book of Penrose (1959) where she first defined the firm as a bundle of productive resources which could, along with the opportunities to deploy them, limit the speed and direction of growth. The resource based view began to gain popularity when Wernerfelt (1984) also argued that a firm could be seen as a bundle of resources and that these could be drivers of strategy, and later when Barney (1991) and others (Collis and Montgomery, 1995; Grant, 1991) developed criteria for resources to create and sustain competitive advantages.

In contrast with the competitive forces theory (Porter 1979), the resource based view assumes that resources are heterogeneously distributed across firms and that it can be difficult to imitate or substitute these resources (Barney, 1991). Because of the resource heterogeneity, some firms can have more resources which comply to the criteria for sustainable competitive advantage. These resources, who comply to the criteria are called strategic resources. If a firm has the ability to possess more strategic resources than its competitors, it means that increased financial performance can be caused by the internal factors of the firm, the resources, as opposed to the external industry factors suggested by Porter (1979). Which of these two theories is better to explain the financial performance of the firm remain a debatable issue in the literature, because the two views are fundamentally intertwined (Makhija, 2003). It is unlikely that Atlas NA can change its environment significantly by its own decision making, and the industry they are operating in will be determined for a great part by the technology they import from the headquarters in Germany. This means that taking on a market based view will probably not allow this paper to make recommendation to increase the financial performance as much as taking on the resource based view, since the financial performance is related to external factors on which Atlas NA can exercise little influence. Therefore this paper takes on the resource based view in order to be able to make recommendations on how to increase financial performance by looking at the firms resources, on which Atlas NA can exercise considerable influence.

Resources according to Barney (1991) are all the assets, capabilities organizational processes, firm attributes, information and knowledge of a firm that can be used to identify and implement strategy. This paper will explore the resources, the dynamic capabilities and the core competences as a unit of analysis. Resources can be classified in under many different categories (Black & Boal 1994). For this paper I will use the classification made by Barney (1991), who argued that resources can be divided into human capital resources, physical capital resources and organizational capital resources. Human capital resources include the training, experience, judgment, intelligence, relationships and insight of individual employees. Physical capital resources consist of the technology use in a firm, the plant and equipment, the geographic location and access to raw materials. The organizational capital resources include a firm's formal reporting structure, the formal and informal planning, control and coordinating systems and also the informal relations which groups within the organization have with other groups in the environment.

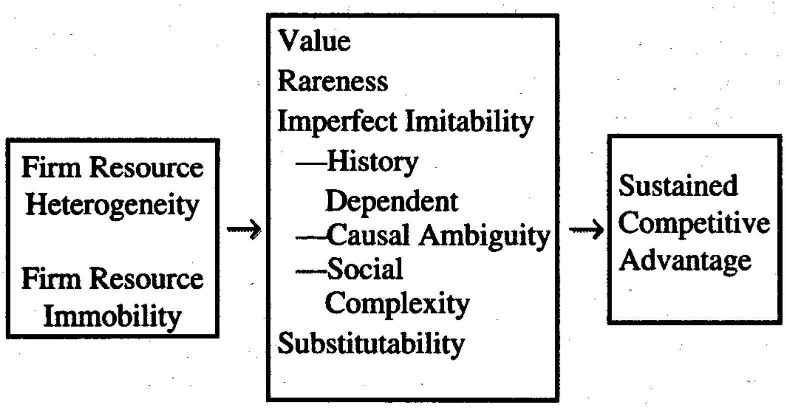

Figure 1, The criteria of resources to be considered as a sustainable competitive advantage (Barney 1991)

However, for the purpose of this paper two more additional classifications were felt necessary. These are capital resources and knowledge resources.
Capital resources are included because Barney (1991) did not specifically address these kinds of resources while other authors did (Black & Boal 1994). Atlas NA operates in an high-tech industry where significant capital investment are required. Therefore capital resources are grouped under a separate classification. Another additional classification are the knowledge resources, the reason for this will be explained in more detail below.

Knowledge as a fifth resource

Traditionally the view is that an organization uses material, capital and human resources to produce goods or services. However with the emerging of the knowledge management field, there are arguments that knowledge is a resource which should not be classified under any of the three resources, although knowledge consists of and is interrelated with material, capital and human resources. Holsapple and Joshi (2001) for example argue that the deployment of traditional resources such as capital, human and material resources should be seen as secondary. They are driven by the organizational processes which are based on the organization's knowledge resources. They argue that this is also in line with the view of Penrose (1959) that the connection between the tangible resources of a firm and the services they provide is mediated by managerial knowledge. Chuang (2004) takes on a resource based perspective when he sees knowledge management as a separate organizational resource. His empirical study finds support for a positive relation between the knowledge management capabilities of a firm and sustainable competitive advantage.

In high-tech firms, knowledge often serves as a basis for competitive advantage (Holsapple and Joshi, 2001). Defining if a firm is high-tech however, is a delicate task. There are many ways of classifying if a company is high tech. Mohr, Sengupta & Slater (2010) argue that the domain of a high tech firm can be classified as high-tech if it operates in a environment which has a common set of characteristics. These characteristics include sources of market uncertainty where the future needs of the customers , and how these needs could be met, are uncertain. Another characteristic is that there are sources of technological uncertainty. Technological uncertainty is caused by uncertainty about when new technologies are introduced, how they will work and if they will make current technologies obsolete. The last characteristic is competitive volatility, where it is uncertain who the future competitors are and what strategies they will use to compete in the market. Atlas NA is operating in such a market according to the management. Eisenhardt and Martin (2000) call these markets high velocity markets and in these markets the manipulation of knowledge resources is especially important.

Because knowledge resources can be separated from the traditional resources, and knowledge resources can provide sustainable competitive advantage, especially in high velocity markets, this paper follows Holsapple and Joshi (2001) and Chuang (2004) by classifiying knowledge as a separate resource. An overview of the classification of resources is summarized in the table below.

Knowledge resources			
Human resources	Physical resources	Capital resources	Organizational resources

Table 1. Classifications of resources

2.3 Dynamic capabilities

Recently, scholars have extended the RBV to dynamic markets because it is not adequately explained how and why firms have competitive advantage in fast changing markets (Eisenhardt & Martin, 2000; Teece et al. 1997). In these markets, dynamic capabilities by which managers integrate, build and reconfigurate competencies become the source of sustainable competitive advantage, instead of the resources the company has.

Eisenhardt & Martin (2000) define dynamic capabilities as; 'specific strategic and organizational processes like product development, strategic alliancing and strategic decision making that create value for the firm by manipulation resources into new value creating strategies and thereby matching the value creating strategies to the changing environment.' Dynamic capabilities often posses the same commonalities across firms in the industry, making them best practices. This means that it is often difficult to sustain a created competitive advantage. Because of this, not the dynamic capabilities are the source of sustainable competitive advantage, but rather the resource configurations which are the result of the dynamic capabilities are.

There are three types of dynamic capabilities. The first type are those that integrate resources. Examples are product development routines where managers combine various skills to create valuable products and services. Another example is strategic decision making, where managers combine expertise to make choices about the strategy.

The second type are the dynamic capabilities that focus on the reconfiguration of resources within the organization. These are processes which managers use to copy, transfer and recombine resources, especially knowledge based resources, within the firm. Examples are managers who create new products by using knowledge from previous production processes from other industries and clients. Another example is the re allocation of resources such as human resources and capital to reconfigure the bundle of resources within the firm.

The third type is related to the gain and release of resources. Knowledge creation routines of managers and other where they build new thinking into the firm are especially important for high tech firms where cutting edge knowledge is essential for effective strategy and performance. Another example is alliance and acquisition routines that bring new resources into the firm from external sources. Finally, the firm also has to let go of resource combinations that once were a basis for competitive advantage but not anymore. The routines of getting rid of those resource combinations are also a form of dynamic capabilities.

In high velocity markets, the dynamic capabilities should be simple, experimental and iterative. Too much structure will destroy it, too little aswell. Therefore the amount of structure has to be carefully watched. Because of the changing environment and high turnover associated with this, the capability is often also destroyed from within the firm because of the addition of too much structure or taking too much structure away. So in dynamic markets, the capabilities can also be destroyed from within.

2.4 Core competence

Prahalad and Hamel (199) are the founders of the concept of core competencies. Core competencies are the relative strengths of the company compared to their competitors. It is what the company does really good, and makes it unique. It is also the basis for a substantial addition of value for the customer. A core competency is also difficult for competitors to imitate. Because the core competencies of a firm are valuable and difficult for the competitors to achieve they comply to the criteria of Barney (1990) and therefore they can create sustainable competitive advantage. Prahalad and Hamel argue therefore that in order to successfully exploit their resources, companies have to fully understand their competences and capabilities. If they reach a full understanding of their competences and capabilities, they can use this understanding to enhance strategic planning and to create synergy between business units.

Javidan (1998) presents a framework where he relates resources to capabilities and competences and ultimately to core competences. This framework is shown below.

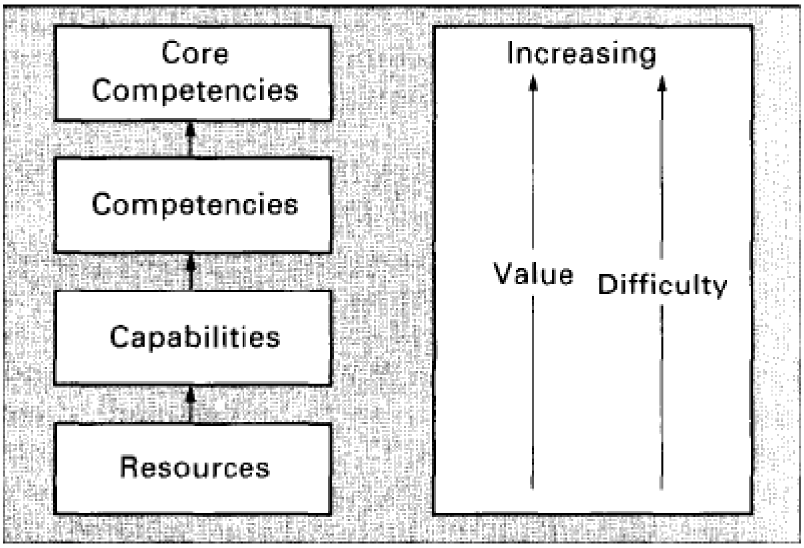

Figure 2. The relation between resources, capabilities and competences

According to Javidan (1998), each company has resources, and the ability to exploit resources results in capabilities. If a company is able to integrate these capabilities cross-functionally and therefore they result in a set of skills or know-how within a business unit, this set of skills or know-how can be classed as a competency. Finally, core competencies are the combination and integration of the different sets of skills and areas of knowledge among the different business units. A core competency is the collection of competencies which are wide spread throughout the whole organization. Each level of hierarchy in the framework is based on the integration of the element below, and each level has a higher degree of value for the company, but the complexity is also increased. Following this framework, the resources and dynamic capabilities should lead to competences and preferably core competences for an organization. In order to identify the core competencies of a organization, Javidan (1998) argues that to identify the core competencies of an organization, five questions should be asked. These are shown below.

1. What are the areas in which the company excels?
2. Are these areas in one business unit or in the whole corporation?

3. Is the company also performing well in relation to the competition?
4. Does it lead to a competitive advantage?
5. Is it the competitive advantage durable?

These questions will form the basis for the identification of core competencies within Atlas North America.

2.5 Sustainable competitive advantage

2.5.1 What is a sustainable competitive advantage?

A firm is said to have a competitive advantage when it implements a value creating strategy which is not simultaneously being used by its current of potential competitors. According to the resource based view, the resources are used to implement a value creating strategy. So if the firm has the resources which let it implement a value creating strategy which the competitors cannot implement, it possess a competitive advantage. If the current and potential competitors are unable to replicate the effects of this value creating strategy over the long term, the firm has a sustainable competitive advantage (Barney 1991). The term sustainable is not marked by a period of time of which the firm has the advantage, but rather is it marked by the inability of the competitors to duplicate the advantage. This means that a firm can lose its sustaineable competitive advantage at any given time, when competitors are able to replicate the effects of the value creating strategy.
However, taking up the notion of dynamic capabilities, it is argued that not the resources are the basis for competitive advantage, but rather the configurations of the resources, which are the result of the ability to manipulate the resources, are the basis for implementing the value creating strategy which leads to competitive advantage.

Therefore, this paper will look at the resources which can be the basis for sustainable competitive advantage, but since Atlas NA operates in a high velocity market, the dynamic capabilities of the organization will also be examined.

Finally, this paper takes a look at the core competencies of Atlas North America in order to gain a better understanding about the sources of competitive advantages identified as either resources or dynamic capabilities.

2.5.2 Why is a sustainable competitive advantage important?

A lot of effort of firms is directed to creating or maintaining a sustainable competitive advantage. Creating a competitive advantage is important for firms, because it lets them outperform their competitors. Fahy (2000) even argues that all managerial effort is directed to gaining an competitive advantage. Gaining a competitive advantage and therefore outperforming competitors will mean that the performance will increase leading ultimately to an increased, or above average financial performance (Barney 1991, Fahy 2000, Collis and Montgomery 1995, Grant, 1991).

This paper defines an increased financial performance as growth. So by gaining insight in which resources are potential and current sustainable competitive advantages, recommendations can be made about better managing current and establishing potential sustainable competitive advantages. This will lead to a more effective use of competitive advantages and therefore an increased financial performance which is growth.

2.5.3 How to measure sustainable competitive advantage

Measuring sustainable competitive advantage can be difficult because of the abstract nature of the resource based view (Fahy, 2000). Many researchers have therefore focused on the link between performance and strategic resources. The assumption is made that if firms with more strategic resources perform better, a competitive advantage must exist. Crook et, all. (2008) verify this by doing a meta analysis of 125 studies of the resource based view. Therefore this paper argues that strategic resources are positively related to firm performance, and therefore strategic resources are the basis of competitive advantage.

In order to make resources observable an important choice is made in this article. Following Fahy (2000), this paper argues that not all firm resources are equally important. The distinction is made between resources who have the potential to be a sustainable competitive advantage and resources which do not have that potential. This distinction limits the often very long list of resources to those strategic resources which could be the basis for a sustaineable competitive advantage and therefore influence growth. The resources which are not strategic would be by definition, readily available in the marketplace. This is because if they would not be readily available in the marketplace they would be a potential competitive advantage. If the resource is readily available in the market, it won't have considerable impact on the growth of Atlas NA.

The distinction between strategic and nonstrategic resources is in practice difficult to make (Fahy, 2000, Ford & Mahieu 1998). However Ford and Mahieu (1998) argue for an approach where key resources are identified based on a review of the firms industry. The key resources are the resources which are most important for the firm in achieving its strategic objectives. These key resources form a good basis for identifying the strategic resources which are the basis of sustainable competitive advantage. This paper follows this approach. It will first identify the key resources which are most important for the organization in achieving its strategic objectives, and will then asses if these key resources are indeed the resources from which sustainable competitive advantage stems.

Now that the distinction is made between strategic and non-strategic resources, and the focus will be on the strategic resources, the next question is how to asses if a strategic resource is indeed the basis for a sustainable competitive advantage. There are different criteria suggested by different authors in the field for assessing whether a resource is a sustainable competitive advantage. The next section of this chapter will explore these criteria and tries to develop a framework for identifying sustainable competitive advantage.

First of all, an assumption about the nature of resources in the industry in which the firm operates has to be made. This paper follows Barney (1991) when it assumes that the industry the firm operates in has resources which have a certain degree of resource heterogeneity and immobility. If this would not be the case, all firms in the industry would have access to the same resources and there would be no possibility to create a sustainable competitive advantage. The industry in which Atlas NA operates in clearly has a degree of resource heterogeneity and immobility. It is not possible for any firm in the industry to obtain the same resources as their competitors without any effort. Because the resources are heterogeneous and immobile, the possibility to create unique resources exists. Without unique resources there would be no competitive advantage since any advantage can be easily copied by the competitors, resulting in a loss of the relative advantage.

This paper argues that Atlas NA operates in an industry with a degree of resource heterogeneity and immobility and is therefore able to acquire unique resources.

If the possibility of unique resources exists, the next question is what makes a resource become a sustainable competitive advantage. In the table below a summary about different criteria from different authors can be found.

Author	**Criteria for resources to be a sustainable competitive advantage**
Barney (1991)	*Valuable, rare, imperfect imitable and substitutable and organization.*
Grant (1991)	*Durability, transparency, transferability and replicability.*
Collis and Montgomery (1995)	*Inimitability, durability, appropriability, substitutability and competitive superiority.*

Table 2. Criteria for sustainable competitive advantage

This paper develops a framework based on a combination of these criteria to assess whether a resource is the basis for a sustainable competitive advantage. The criteria are a combination of the ones found in the table above. They are described in detail next.

Valuable.
According to Barney (1991), a resource must be valuable in the sense that it can aid in the exploitation of opportunities or the neutralization of threats of the organization. If a resource complies to all other characteristics but doesn't add value, it is of no use to the firm. The resource also has to be valuable for the industry the company is in and at the current time, according to Collis and Montgomery (1995). If a resource is valuable outside the industry, or in the past or future, but does not contribute value to the firms current products, the resource should not be considered valuable. Therefore this paper considers a resource valuable if it helps to create value for the companies customers, since extra value for the customers is an opportunity and is by definition relevant for the current customers in the industry.

Rare
In order to create a sustainable competitive advantage, the resource must also be rare according to Barney (1991). If the resource is common among the firms, it would be possible for those firms to replicate the effects of the resource easily and thus the competitive advantage would become common practice in the industry. The same goes for bundle of resources which are a mixture of the different types of resources. If this combination is common among the firms in the industry it will become common practice and the advantage cannot be sustainable.

Inimitable
Some resources are easily imitated by competitors. If the resource is valuable and rare but also easily imitated, it won't take long for competitors to replicate any advantage that might spring from the resource. This means that if a resource is easily imitated the competitive advantage will not be sustainable. The basis for a inimitable resource is often a highly complex organizational routine

according to Grant (1991). Barney (1991) goes deep into the matter by discussing three ways for a resource to become imperfect imitable.
Firstly, if the resource depends on the unique historical path of the firm's life, other firms cannot replicate it because they didn't follow the same historical path. Another reason can be the causal ambiguity of the resource. If the relation of the resource to the competitive advantage is not understood by the competitors they will not be able to replicate the resource. Finally, if the resource is embedded in a socially complex phenomena, it can be beyond the control of the firm to influence it. An example would be the interpersonal relation of two managers. This relation could very likely be so complex that replication of the exact same relation would be very difficult, if not impossible.

Non substitutable
Barney (1991) and Collis and Montgomery (1995) both agree on the fact that a resource that is the basis of a competitive advantage cannot be substituted by another resource if the competitive advantage is to be sustainable. Two valuable resources, or bundles of resources are said to substitute each other when both can be used independently to implement the same value creating strategy. The only way a resource is substitutable by another resource and will still create a sustainable competitive advantage is when both resources fit the criteria for a sustainable competitive advantage because the competition will not be able to acquire either of the resources.

Appropriability
According to Collis and Montgomery (1995) not all profits from a resource automatically go to the firm that owns the resource. It is often the case that the profits have to be distributed amongst a host of players in the value chain. Creating competitive advantages based on resources that are not bound to the organization can make it hard for the organization to capture the profits arising from this resource. Competitive advantages for which the firm only gets a small part of the value will also contribute less to the financial performance of the firm.

Usable
The last criterion is based on the addition of Barney and Griffin (1992) to the set of criteria Barney (1991) already developed. They added the criterion of organization. If the firm has acquired resources that are valuable, rare, inimitable, non substitutable and appropriable, it has to be sufficiently organized to exploit the opportunities and neutralize the threats by using the resource. If a company has the resource available but is not able to use them in the correct way the resources will not contribute to superior financial performance. Barney and Griffin (1992) call this criterion organization, but this paper will use the term usable.

Chapter 3 Research Design and Methodology

This research can be classified as a both explanatory and descriptive case study. This is because the research aims at describing the situation of a single company, but also tries to explain certain relationships between the company and its environment (Babbie 2004). This chapter will discuss the research design, the method of the data collection and ends with the limitations of the chosen methodology.

3.1 Research design

This research makes a qualitative analysis in the field of a single unit of analysis, and is therefore classified as a case study. One of the key strengths, according to Babbie (2004) of qualitative field research is that by going directly to the social phenomenon under study, the researcher can develop a deeper and fuller understanding of it. The unit of analysis is the company Atlas North America. The units of observation will be the people currently employed at the company, the head of the divison Vessel Systems, and several written documents from within the company and US government websites.

3.2 Data collection

The primary data is collected by qualitative interviewing. The secondary data is collected by reviewing articles on corporate regulations in the United States, company brochures and general information sources on the internet. The qualitative interviewing is the way that most of the data in this paper is gathered. According to Babbie (2004), 'qualitative interviewing is flexible, iterative, and continuous rather than prepared in advance and locked in stone.' A qualitative interview is based on the interaction between the respondent and the interviewer. This allows the topics to be discussed in depth rather than being based on standardized questions.

The interviews at Atlas North America were informal talks, mostly with the CEO and the COO, but also with the other employees of the company, such as the engineer and the contracts manager. More information about the structure of the organization can be found in the organization chart in Appendix E. These informal talks were used to get general information about the company strategy, the industry and conducting business in the US, as well as to identify what resources are used in the daily operations of the business. The interviews to identify the key resources of Atlas North America and the dynamic capabilities and core competences were held with the head of the division Vessel Systems of Atlas Elektronik. The head of the division Vessel systems is responsible for all upper water systems of Atlas Elektronik. The Seafox system which is currently being sold by Atlas North America is part of the upper water systems. Therefore he is closely involved in the development of the business in the US, frequently visiting Atlas NA to discuss progress and strategy formulation.

3.2.1 The Sustainable Competitive Advantage Index

In the theoretical framework a selection of criteria were made to assess whether a resource or capability can lead to a sustainable competitive advantage. These criteria are valuable, rareness, inimitable, non substitutable, appropriability, and usability. In order to be able to measure the values of these criteria, the sustainable competitive advantage index is developed. The criteria for sustainable competitive advantage are given a score based on a 5 point Likert scale, where a score of 1 is classed as a very low score and 5 as a very high score.

So if a resource or capability gets a score of 5 for the criterion rareness, it means that the respondent considers the resource or capability as very rare.

By doing this, the resources and capabilities which were already identified as being strategic, can be ranked by their score which represents the degree of their sustainability and the degree of competitive advantage the firm is likely to get from owning the resource or capability.

If a resource or capability scores high on the criteria of valuable, appropriability and usablility, it means that this resource or capability will contribute to a competitive advantage. Similarly, if it score high on rareness, inimitable and non substitutable, it will can be classified as sustainable.

In the previous section the criteria to which a resource has to comply in order to be classified as a sustainable competitive advantage were explored. However, it is not sufficient to label a resource as a sustainable competitive advantage. Some competitive advantages are more easily sustainable than others (Grant, 1991), and some contribute more to the firm's financial performance than others (Barney 1991). Therefore this paper developed a sustainable competitive advantage index in order to measure the degree of sustainable competitive advantage of a resource.

The sustainable competitive advantage index is an index were scores on the different criteria are attributed to different resources. After identifying the key resources of the company, these resources are assed using a questionnaire with a 1 to 5 Likert scale. It measures the score of a resource on the different criteria for sustainable competitive advantage. A score of 1 will mean that the resource scores absolutely negative on one of the criteria for sustainable competitive advantage, while a score of 5 shows that a the resource has the potential to be a sustainable competitive advantage based on that criterion. There is one further requirement and that is that there cannot a single criterion that scores lower than 3 because that would mean that it does not comply to one of the criteria for sustainable competitive advantage. A score lower than 3 on one of the criteria would mean that the resource is either not valuable, rare, non-imitable, non-substitutable, appropriable or usable and therefore cannot be classified as a sustainable competitive advantage.

The key resources will be ranked according to their score from high to low. The higher a resource scores on this index, the better it will be able to provide a sustainable competitive advantage for the firm and the more it will contribute to the financial performance. This allows the firm to assess on what resources it wants to focus. The firm has the option of exploiting the high score resources to the fullest extent, or to investigate why other key resources are not classified as a sustainable competitive advantage.

3.2.2 Core competencies

In order to measure the core competencies of Atlas North America, the 5 questions framework from Javidan is adopted to this study. These questions are shown below. The interview about core competencies can be found in Appendix D.

1. What are the areas in which Atlas NA excels?

2. Are these areas of excellence limited to Atlas NA or are they applicable to the whole corporation?

3. Is Atlas NA also performing well in relation to the competition?

4. Do the areas of excellence lead to a competitive advantage?

5. Is it the competitive advantage durable?

3.2.3. Dynamic capabilities

In order to measure the dynamic capabilities of Atlas North America, the interview focuses on the three types of dynamic capabilities that can be present in an organization.

1. Are there dynamic capabilities within Atlas NA that let it integrate existing resources?

2. Are there dynamic capabilities within Atlas NA that let it reconfigure the resources within the organization?

3. Are there dynamic capabilities within Atlas NA that let it attract new resources or dispose obsolete ones?

The interview about core competencies can be found in Appendix C.

3.3 Reliability

The most important limitation of this research is the sample size taken for both the sustainable competitive advantage index and the identification of the key resources of the company. Because only one respondent is asked, there might be a chance that key resources are not identified which are important to the firm, or that a key resource which is identified might be not that important to the firm. For the sustainable competitive advantage index, the score are also based on one respondent. If multiple respondents were used, a more reliable estimate of the degree of sustainable competitive advantage of the resources could be made.

Another limitation of this research is in the fact that it is a qualitative design. This means that it is not an appropriate means for arriving at a statistical descriptions of the units of analysis. This is part of the debate between researcher who favor qualitative designs versus those who favor quantitative designs. One can argue that in a qualitative design there is a lack of hard, statistical evidence (Babbie, 2004). This is a topic which is hard to tackle because there is a considerable amount of debating still going on. The general observation however can be made that this research, being qualitative, has a higher probability of being valid because the researcher is there on the spot and is therefore better equipped to find out what has to be measured. The reliability however is likely to be less compared to a quantitative study. This is because the lack of quantitative data and the fact that the qualitative data is subject to the personal bias of the researcher. Because the company under study is relatively new and small, the fact that a qualitative study is used might not pose a problem. However if more reliable data for decision making is needed, the addition of quantitative research might be desirable.

Chapter 4 Results

4.1 Identification of key resources

The first step of identifying resources which are the basis for a sustainable competitive advantage is to identify the key resources of the organization. The open ended interview was used for this. In this interview, eleven resources were identified that contributed significantly to achieving strategic objectives or which were generally considered of high importance to the firm. These resources are classified under the four categories of resources, as can be seen below.

Resource category	**Key resource**
Human resources	*Employees which are imbedded in a network of relations with the environment.* *Employees which have knowledge and experience in the application of the products.* *The formal and informal relationships between the headquarters and Atlas NA.* *Employees are US citizen only.*
Physical resources	*Geographical location in the US.*
Financial resources	*The relationship with the headquarters for capital needs.*
Organizational resources	*Formal reporting and approval procedures and processes present* *Informal relationships of groups within Atlas NA with current and potential customers*
Knowledge resources	*Technology.* *Employees knowledge and experience in the industry.* *Relationship with HQ to acquire new knowledge.*

Table 3. Key resources for Atlas North America.

The key human resources consist of the employees having certain characteristics. Having a network of relationships within the environment, and especially with the current and potential customers was identified as being highly important to generate new business opportunities by both the management of Atlas North America and Atlas Elektronik. This network allows Atlas NA to stay in touch with its customers and to get information about customer current and future needs. Not only a network of relations is important for employees when dealing with customers. Another key capability for an employee is that the employee has experience with the application of the products which are sold by Atlas NA. This experience is acquired through serving in the military. If the employee does not have this experience it proves to be difficult to present themselves as trustworthy and knowledgeable about the products. Another key resource identified by the management of Atlas NA and the headquarters is the formal and informal relationship between Atlas NA and the headquarters. This allows people to travel between the firms on a formal or informal basis in order to receive training or gain additional skills. This happens within Atlas NA on a frequent basis. The last resource of importance is the fact that the employees are US citizens. According to the ITAR regulations of the government only US citizens can have access to US defense related materials and knowledge. The fact that the employees are US citizens also helps building a relationship of trust between the customers and Atlas NA, since the 'Americans like to do business with fellow Americans' according to the COO at Atlas NA.

As for the physical resources, the only key factor was the fact that the firm is situated in the US. This allows the firm to have access to defense related materials and documents and also lets it do business with other companies in this industry, where if it would be situated in another country this would not be possible because of the legal requirements.
The headquarters in Germany can provide Atlas NA with sufficient capital for all their needs. Atlas NA does not have to worry about not being able to attract enough capital to implement business strategies. This availability of capital resources is also defined as a key resource for Atlas NA.

Considering the organizational resources, formal reporting and approval procedures are mentioned as key resources. They must be in place because of the regulations from the US government, according to the management of Atlas NA, but are also seen as important for the functioning of the business according to the head of Vessel Systems. Another key resource as described by Barney (1991) is the relationships between groups within Atlas NA with current and potential customers. This might appear to be the same as with the individual relationships with the environment but the difference is that some relationships cannot be attributed to individual employees but only to groups of employees within the organization. The importance of these relationships stem from the same reason as the individual relationships, namely to acquire knowledge from the environment and to use that knowledge to generate new business opportunities.

The last group of resources are the knowledge resources. These resources were defined as very valuable which is not surprising since Atlas NA can be classified as a high-tech firm. First and most importantly is the technology which Atlas NA can use to achieve strategic objectives. The fact that Atlas NA can access the patented technology of their headquarters allows them to sell their products and to help their customers install the products more efficiently according to the engineer of Atlas NA. The second and third knowledge resources are related to human resources and organizational resources. However as can be seen in chapter 2, the knowledge resources consist of the other organizational resources. Therefore, the knowledge and experience of the employees of the defense industry is classified as a separate knowledge resource. Within Atlas NA there was general consensus that the knowledge and experience of the employees of the defense industry is not only used to build a trustworthy relationship with the customers but also recognized as a key resource to be able to do business in general in this industry. The same goes for the relationship between Atlas NA and its headquarters. This relationship is not identified as a key organizational resource, but when related to knowledge, it becomes a key resource to acquire new knowledge.

4.2 Assessing the scores on the Sustainable competitive advantage Index.

Now that the resources and capabilities which are most important for Atlas North America to compete in the industry are identified, they are ranked by importance on the sustainable competitive advantage index, explained in chapter 2. Each resource or capability received a score from 1 to 5 on the criteria for sustainable competitive advantage. A score of 1 means that the respondent sees the resources or capability as scoring low on the criteria for sustainable competitive advantage, while a score of 5 indicates that the resource or capability contributes a lot to sustainable competitive advantage. These scores can be found in the table below. For example, the relation with the headquarters to acquire knowledge is considered very valuable, it score neutral on the rarity, it is not really difficult to imitate, but it is quite difficult to substitute, the profits which result from the relation flow for the bigger part to Atlas NA and the relation is used to achieve strategic objectives.

	Valuable	Rare	Non-imitable	Non-substitutability	Appropriable	Usable	Total score
Sustained competitive advantages							
Employees are imbedded in network	4	3	4	5	5	5	26
Technology	4	4	5	3	4	5	25
Formal & informal relations HQ	4	5	4	3	4	4	24
Relationships of groups with environment	4	4	4	4	4	4	24
Employees knowledge experience	5	3	4	3	4	4	23
Non sustained competitive advantages							
Relation HQ for acquiring knowledge	5	3	2	4	4	4	22
Employees US citizens	4	1	5	5	1	5	21
Geographic location is in US	4	1	5	5	1	5	21
Formal processes and procedures	5	2	2	5	3	4	21
Employees experience with products	4	2	2	2	4	3	17
Relation HQ provides capital	1	2	1	3	4	5	16

Table 4. Results for the sustainable competitive advantage index

Table 4 summarizes the scores administered to the key resources. Scores which are negatively correlated with sustainable competitive advantage are marked red, score which are positively correlated are marked green. The resources are ranked according to their total score on all the criteria. From this table several conclusions can be drawn. These are discussed next.

Resources and capabilities which are considered to be a basis for sustainable competitive advantage

	Valuable	Rare	Non-imitable	Non-substitutability	Appropriable	Usable	Total score
Employees are imbedded in network	4	3	4	5	5	5	26
Formal & informal relations HQ	4	5	4	3	4	4	24
Relationships of groups with environment	4	4	4	4	4	4	24
Employees knowledge experience	5	3	4	3	4	4	23
Technology	4	4	5	3	4	5	25
Accumulated score per criterion	21	19	21	18	21	22	

Table 5. Resources and capabilities that can provide sustainable competitive advantage

In order for a resource or capability to be considered as a basis for sustainable competitive advantage, it has to score a minimum of three points on every criterion. As table 5 indicates, there are five resources which are considered to be a basis for sustainable competitive advantage. These are the network of relationships which both the employees and groups of employees have with the environment, the formal and informal relationships between Atlas NA and the headquarters and the knowledge and experience which the employees have about the industry.

All of these key resources are considered to add significant value for the customer, and the knowledge and experience of employees about the industry are especially important in this respect, since it received the maximum score of 5. The profits that arise from these resources will go for the greater part to Atlas NA itself and not to other participants in the value chain, as is reflected in the high scores for appropriability. Atlas NA is capable of using the resources to exploit opportunities or neutralize threats and to achieve strategic objectives, because the resources score high on usability. However the results also indicate that all but one of the resources score average on either rarity or substitutability. This means that although Atlas profits from the resources and is able to use them effectively, it might not be that hard for competitors to acquire either the same resources, or other resources which yield the same results. According to the index the resources can be classified as a basis for sustainable competitive advantages, but while the strong points are mostly found in the competitive advantage, it is questionable if the competitive advantages are sustainable. The only resource which has a score above 3 on all the criteria is the relationships of groups within Atlas NA with the environment. The fact that the competitive advantage is better sustainable might be found in the social complexity of the relations (Barney 1991).

Resources and capabilities which are not considered to be a basis for sustainable competitive advantage

	Valuable	Rare	Non-imitable	Non-substitutability	Appropriable	Usable	Total score
Employees experience with products	4	2	2	2	4	3	17
Employees US citizens	4	1	5	5	1	5	21
Geographic location is in US	4	1	5	5	1	5	21
Relation HQ provides capital	1	2	1	3	4	5	16
Formal processes and procedures	5	2	2	5	3	4	21
Relation HQ for acquiring knowledge	5	3	2	4	4	4	22
Accumulated score per criterion	23	11	17	24	17	26	

Table 6. Resources and capabilities which cannot provide sustainable competitive advantage

Table 6 represents the resources which are not classified as a basis for sustainable competitive advantage because they did not comply to all the criteria for a sustainable competitive advantage. Nonetheless, some interesting conclusions can be drawn from this table.

The resources which are not classified as a basis for sustainable competitive advantage are the fact that the employees are US citizens, that they have knowledge about and experience with the application of the products Atlas NA is selling, the geographical location, the financial support of the headquarters, the formal processes and procedures which are in place and the relation with the headquarters to acquire knowledge.

From this data the conclusion can be drawn that all the resources, except for the financial support of the headquarters, add significant value for the customer and that Atlas NA uses them to exploit opportunities or neutralize threats to a large extend as is indicated by a total score of 26 for the usability criterion. Also, except for the geographical location and nationality of the employees, the profits can be appropriated by Atlas NA itself. This indicates that the resources mentioned above can be a basis for competitive advantage and that is also probably the reasons why the resources were identified as key resources. However, the score on sustainability are very low. The resources are not rare or difficult to imitate which means that they can be found within competitive firms across the industry.

4.3 What are the dynamic capabilities of Atlas North America?

In this section, the dynamic capabilities of Atlas North America which are identified during the interview will be discussed. The interview can be found in appendix.

There are three types of dynamic capabilities, those that let the organization integrate resources to create new value creating strategies, those that focus on the reconfiguration of resources, and the dynamic capabilities for attracting and disposing resources. From the interview it became clear that Atlas North America has not yet developed that many dynamic capabilities because the company is relatively young, it only exists for 1,5 year. Organizational routines that are still being developed from the starting point. Also the company is not that big, so there are not that many functions or disciplines that can be combined in order to integrate or reconfigure resources. However, several dynamic capabilities were found.

Three dynamic capabilities that let Atlas NA integrate its resources to create new value creating strategies were identified. The first on is the capability of strategic decision making. This dynamic capability integrates management skills with financial, human, and technology resources in order to make strategic decisions. The second dynamic capability is the ability for service improvement, where technology resources are combined with engineering knowledge and supplemented with marketing skills. This capability of integrating resources let Atlas NA have a superior service provision to the customer. The third dynamic capability which integrates the resources of Atlas NA is the ability to integrate management skills with the relations of employees with the environment to anticipate on future customer needs.

The management also has the capability of reconfiguring the service process to better match the needs of the customers by reconfiguring the resources of this process. This is shown by the fact that they recently included engineering skills and knowledge to the bundle of resources that was used to offer services and thereby increasing the value for the customer.

As for the attracting and disposing of resources, a dynamic capability that was identified is the ability of the management to use its knowledge and experience to attract the human resources that are suited to the needs of the changing environment. This is also shown in the fact that they hired an engineer in order to improve the service provision for the customer. However, routines for attracting resources still have to be developed, at the moment they rely more on formal, fixed processes and procedures that are in place for acquiring new resources. As for the disposal, there are not yet any resources disposed which could be considered influencing a value creating strategy.

To sum up, because of the relatively youth and the fact that the organization is still quite small, not many dynamic capabilities have been developed yet. Those that are identified are the strategic decision making, the ability integrate resources to improve service, the ability to integrate resources to anticipate future customer needs, reconfiguring the bundle of resources to increase the value of the services they provide, and the ability to use management knowledge to attract human resources which suit the environmental requirements.

4.4 What are the core competences of Atlas North America

In this section the core competencies of Atlas North America which are identified during the interview are discussed. The interview can be found in appendix.
Following the questions proposed by Javidan (1998), the areas in which Atlas North America excels are first identified. These areas of excellence are then tested if they comply to the criteria of competence or core competence.

The areas of excellence within Atlas North America were considered to be marketing, customer relationship management and service provision. These areas of excellence were not distributed across the whole corporation but were considered only to apply to Atlas NA. When comparing these areas of excellence to the competition, such as Lockheed Martin and L3, it becomes clear that the marketing and customer relationship management areas are considered important in the industry, and therefore the competition also developed these areas to a certain extent of excellence. This is important because the products which are sold have on average a life expectancy of twenty to thirty year, and during this time additional services are provided. In order to do this, a intimate relation with the customer is required. Lockheed Martin and L3 for example have specialized departments for their customer relations, which include contacts in politics. These departments make sure that a long term relation is managed well. The service provision however is an area in which Atlas NA is significantly better than their competitors.
Since marketing and customer relationship management are matched in quality by the competitors, these are not capable of providing a competitive advantage. Service provision does lead to a competitive advantage because Atlas NA is better in providing service than their competitors and the provision of service lead to a significant addition of value for the customer. This competitive advantage Is not really durable however. It is difficult for competitors to substitute, but not to imitate. The only advantage Atlas NA has is that it is still a small company meaning that it has a high degree of flexibility and responsiveness to the customers, something which is difficult, however not impossible, for competitors to imitate.

Chapter 5 Conclusion

In the previous chapters a research question was formulated and a theoretical framework was established and an index constructed to measure sustainable competitive advantage. Finally the results were discussed. This chapter concludes on the research question and makes recommendations to the management.

5.1 Conclusion on the sub question.

In this section an answer will be given on the subquestion which was formulated as;

'What resources, dynamic capabilities and core competencies does Atlas North America currently have to achieve sustainable competitive advantage?'

Several resources and capabilities are identified that can provide a basis for sustainable competitive advantage. An interview was held to identify the most important key resources. These key resources are the network of relationships which both the employees and groups of employees have with the environment, the formal and informal relationships between Atlas NA and the headquarters, the knowledge and experience which the employees have about the industry, the fact that the employees are US citizens and speak the language of the customers, the geographical location, the financial support of the headquarters, the formal processes and procedures which are in place and the relation with the headquarters to acquire knowledge. These key resources were tested for sustainable competitive advantage using the sustainable competitive advantage index. This identified which of the key resources are considered a basis for sustainable competitive advantage.

Based on the interview about dynamic capabilities, it became clear that because of the relatively youth and the fact that the organization is still quite small, not many dynamic capabilities have been developed yet. Those that are identified are the ability of strategic decision making, the ability integrate resources to improve service, the ability to integrate resources to anticipate future customer needs, reconfiguring the bundle of resources to increase the value of the services they provide, and the ability to use management knowledge to attract human resources which suit the environmental requirements.

Core competences are not yet developed at Atlas North America. This is the conclusion that can be made from the last interview about core competencies. Atlas NA has developed several areas of expertise, such as marketing, customer relationship management and service provision to the customer. Marketing, service provision and customer relationship management are considered a distinct set of skills and knowhow and can be classed as a competence of the organization. However marketing and customer relationship management do not provide a competitive advantage because they are not significantly better in it than their competitors. Customer relationship management however is a competence that gives Atlas NA a competitive advantage. This advantage is not considered durable, although it might last for a while because of the greater responsiveness and flexibility of Atlas compared to the competitors.

5.2 Conclusion on the research question

This section will give an answer to the research question. The research question was formulated as*; 'How can Atlas North America expand their current resource base to achieve sustainable competitive advantage?'*

Growth is defined as an increase in financial performance. To achieve increased financial performance, Atlas North America should focus on the resources that lead to a sustainable competitive advantage, and to focus on the dynamic capabilities that let Atlas NA configure their resources in such a way that they can lead to sustainable competitive advantage. These resources and dynamic capabilities should lead to competencies and ultimately to core competencies which can lead Atlas North America to new markets, satisfy customer needs, are difficult to imitate and create value by improving the synergy between business units. These core competencies will lead to a better financial performance for Atlas North America and thus growth.

The resources that are the basis for a sustainable competitive advantage are the network of relationships which both the employees and groups of employees have with the environment, the formal and informal relationships between Atlas NA and the headquarters, the knowledge and experience which the employees have about the industry. If Atlas North America focuses on retaining and expanding these resources, sustainable competitive advantage will be achieved which will lead to increased financial performance.

The dynamic capabilities are the ability of strategic decision making, the ability integrate resources to improve service, the ability to integrate resources to anticipate future customer needs, reconfiguring the bundle of resources to increase the value of the services they provide, and the ability to use management knowledge to attract human resources which suit the environmental requirements. In markets which are subject to rapid change and uncertain developments, dynamic capabilities let the organization configure its resources in such a way that sustainable competitive advantage can be achieved. Developing these dynamic capabilities will thus lead to sustainable competitive advantage for Atlas North America and ultimately to increased financial performance.

Atlas North America has not yet developed any core competencies. Marketing, customer relationship management and service provision are considered competencies which add significant value for the customers and those are therefore areas on which Atlas North America should focus for increased financial performance. These competencies should be further developed in collaboration with the headquarters to make them core competencies. This will lead to increased financial performance and thus growth.

5.3 Recommendations

Following from the conclusion, several recommendations can be made to the management of Atlas North America. These are discussed in this section.

First of all only the relationships of groups within Atlas NA with the environment can be considered really sustainable. This is a competitive advantage that must be fostered. As Barney (1991) argues, this could be because of the social complexity of the relations. Management must be careful not to make changes which affect these relationships without discussing possible implications which might damage the relationships. Furthermore, the relationships which individual employees have with the environment are not very difficult to acquire in the market. However these relationships do add value for the customers and they are important for achieving strategic objectives. Atlas NA should make sure that if employees are hired, they are required to have these relationships with the environment. The same goes for the knowledge and experience of the employees.

The formal and informal relationships with the headquarters should also be fostered, and if possible more attention should be given to it because they contribute positively to the value, the achievement of strategic objectives and the profits flow for a greater part to Atlas NA.

The technology is considered to contribute considerably to the value for the customers of Atlas NA, and aids Atlas NA in achieving its strategic objectives. Therefore the technology is a basis for competitive advantage. However, although it is not easily imitated because of the intellectual property protecting it, it is not seen unlikely that the competitors will come up with technology that is able to substitute the technology which Atlas is currently selling. Therefore Atlas should not rely too heavily on its superior technology to gain an advantage over its competitors because this advantage is not likely to be sustainable.

Secondly, some recommendations about the second group of key resources can be made. First of all, the facts that the company is situated in the US and its employees are US citizens are not sustainable as a competitive advantage which is logical. Competitors would have little trouble starting up a company in the US and finding US personnel. However these two resources are still important because they contribute to the value for the customer, and they contribute highly to the achievement of strategic goals. It is unlikely that the company is moving out of the US, but considerations have to be made when deciding if employees from Germany for example should be transferred to Atlas NA. The advantages of getting additional skillful personnel should be weighed against the contribution to the value and strategic goals of US employees. The relationship with the headquarters to acquire capital is not that interesting, because it is not rare and easily imitated. It also provides little added value to the customer. The fact that employees have knowledge of and experience with the application of products in the industry is also not a resource which should receive considerable importance. This resource is easily copied by competitors and does therefore not contribute to sustainable competitive advantage.

Attention should be given to the relation with the headquarters to acquire knowledge and the formal decision making and approval procedures. While it is not difficult for competitors to replicate these results, these resources contribute highly to the ultimate value proposition to the customer. The formal procedures have to be in place because of regulations, so every competitor will have them as well. Management could take care of a effective implementation however to maximize the contribution to the value. The management could also try to increase the complexity of the relation with the headquarters to acquire knowledge. The only reason that this is not a sustainable competitive advantage is because the competitors can imitate the relationship relatively easy. Adding complexity to this relation might be able to result in the creating of an additional sustainable competitive advantage.

Since Atlas North America is operating in a high velocity market, the dynamic capabilities let them configure their resource base in a way that let them create sustainable competitive advantage. The results show that they are good at configuring and integrating their resource based in a way that they achieve high quality service provision by integrating engineering skills and knowledge, management experience and other resources. This lets them foresee future needs of the customers and allow them improve the quality of their services. They should focus on improving these capabilities for integrating resources which lead to better service performance. However, more dynamic capabilities should be developed, especially regarding the attracting and disposing of resources. This is currently done by formal procedures, which are according to the literature on dynamic capabilities, too structured for an high velocity environment. Atlas North America should focus on replacing these formal procedures by dynamic capabilities such as management routines which are able to assess whether resource should be attracted or disposed.

Atlas North America is a relatively young company. That might be one of the reasons according to the interview that it has not yet developed core competencies. If a business wants to be really successful it has to create core competencies in order to expand into other markets yield the profits arising from their core competencies. Atlas North America has one distinct competency which gives it a advantage over its competitors and that is that they excel in the provision of their service. This is shown by their capability of integrating and configuring their resources such as engineering knowledge and management experience to attain superior service performance. They need to align this competency with other business units in order to spread this competency across the corporation as to make it a core competency. This will let Atlas North America also sell other products in different markets where they can compete on the basis of their superior service provision.

Chapter 6 Discussion

6.1 Limitations

An important limitation of this paper is the fact that the resource based view which is chosen to analyze the organization does not give a complete picture about organizational performance. Industry factors and global economic and political factors are not taken into account. The reason for taking on the resource based view is because it is unlikely that Atlas NA can change its environment significantly by its own decision making, and the industry they are operating in will be determined for a great part by the technology they import from the headquarters in Germany. This means that taking on a market based view will probably not allow this paper to make recommendation to increase the financial performance as much as taking on the resource based view, since the financial performance is related to external factors on which Atlas NA can exercise little influence. However the environment factors do have significant influence on the performance of Atlas North America and these factors are not taken into account in this paper.

Another limitation is that an increase in financial performance is seen as growth. This is a somewhat simple definition of growth, since growth can also be achieved by other means than increasing financial performance. However the management indicated that an increase in financial performance was the most important indicator of growth and therefore this definition is taken.

6.2 Future research

Future research is necessary on two fronts. First of all taking on the resource based view is one way of looking at Atlas NA. It looks to identify the factors contributing to sustainable competitive advantage which leads to outperforming competitors with increased financial performance as result. However, industry and also wider environmental factors can also have a significant impact on firm performance, as stated in the section above. This leads to an incomplete picture of the firm if one would look at it only via the resource based view. Future research should therefore focus also on the micro and macro environment in order to make the picture as complete as possible and therefore allow the best possible decision making for Atlas North America.

Also, the exact relation between sustainable competitive advantage remains ambiguous. Crook et al. (2008) find empirical support that sustainable competitive advantage leads to increased performance but exactly how remains unclear. Future research in this area should focus on the extent to which individual resources and capabilities contribute to the performance of Atlas NA, how the value is appropriated and what the relation between the resources and capabilities with the environment and strategy is or should be.

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Appendix A Sustainable Competitive Advantage Scorecard

1. Does the resource add value for the companies customers?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

2. Is the resource scarce in the market?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

3. Is it difficult for competitors to replicate the resource?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

4. Are they resources which might substitute the outcomes?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

5. Does the company reap the benefits of the resource itself?

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

6. Is the company able to use the resource for strategic purposes.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
○	○	○	○	○

Appendix B. Interview about key resources

Interview 1. Key resources
Respondent: Robert van de Pieterman

Purpose
This interview is set up in order to identify the key resources and capabilities of Atlas North America. There are five questions, each related to a group of resources and capabilities. The groups are; Human resources and capabilities, physical resources, financial resources, organizational resources and capabilities and knowledge resources and capabilities.

Question 1.
What are the most important human resources and capabilities for Atlas North America to compete in the market?

Atlas North America needs employees who are imbedded in a network of relations with the customers. This network of relations help identifying the current and future needs of the customers, and give the customers the ability to express their wants and also criticism. These relationships are used to create new business opportunities.

Furthermore, they need people who have experience with the products Atlas NA sells. This means that they had working experience within the military, serving on the ships which are ultimately going to use the products Atlas NA sells. This experience helps the employees to understand the customer, and gain their trust.

Having employees which are US citizens enables Atlas NA to access sources of knowledge and also customers which otherwise would not be available due to regulations. Therefore it is important that the employees are US citizens.

The exchange of people from Atlas North America with Atlas Elektronik in Germany is also very important. This allows the employees of Atlas NA to be trained in Germany, where the products are made. The German engineers can tell more about the products than the written manuals can.

Question 2.
What are the most important physical resources for Atlas North America to compete in the market?

The only thing I can think of is would be the geographical location which is in the US. The fact that Atlas North America is situated in the US lets them do business with the US government, which is the most important customer. This is also the reason why Atlas NA was set up in the first place, because we couldn't serve the American market from our headquarters in Germany.
The rest of the physical assets, such as the building and the inventory are quite easily replaceable if that would be necessary.

Question 3.
What are the most important capital resources for Atlas North America to compete in the market?

Atlas North America relies exclusively on the headquarters, Atlas Elektronik, for their financing needs.

Atlas Elektronik has a yearly revenue of almost 450 million euro's and therefore has enough capital available to support Atlas North America with the capital they need. Atlas North America can get the capital in the form of a loan if they can provide sound investment plans.

Question 4.
What are the most important organizational resources and capabilities for Atlas North America to compete in the market?

A strong point for Atlas NA is that they have formal reporting and approval procedures and processes in place, even though they are a relatively young and small company. These procedures are in place because of government regulations, but it nevertheless allows them to have a greater degree formalization and therefore efficiency in these processes.

The relations between groups of employees, such as the whole management team or the sales team, with the environment and especially the customers are important for Atlas NA. This is essentially the same as with the individual relationships in that they are also used to identify the current and future needs of the customers and therefore create new business opportunities. However, these relations cannot be attributed to one person in the firm, but rather to a combination of these persons.

Question 5.
What are the most important knowledge resources and capabilities for Atlas North America to compete in the market?

The most important knowledge resources and capabilities are the knowledge and experience of the employees in the defense industry, the relation between the headquarters to acquire knowledge and the technology. The knowledge and experience of employees about the defense industry lets them build a trustworthy relation with the customers, and enables them to know who are the important contacts in the industry, know how to talk to the important contacts and let them feel comfortable with the products they are selling.

The relation between the Atlas North America and Atlas Elektronik is also of considerable importance for acquiring new knowledge. Knowledge about the business and the products, such as how to install products on the ships of the customers, as well as general knowledge and experience for doing business can be acquired through the relation with the headquarters.

The technology which is imported from the headquarters is a very important resource for Atlas North America. This is the basis on which they sell their products. The technology is patented, and licensed only to Atlas North America so that they have the monopoly of this particular product in the market.

Appendix C. Interview dynamic capabilities

Interview 2. Dynamic capabilities
Respondent: Robert van de Pieterman.

1. *Are there dynamic capabilities within Atlas NA that let it integrate existing resources?*
   Because Atlas NA is a small, and more importantly relative young company, it started only about 1,5 year ago, there are not that many disciplines and resources available to integrate to create a new value adding strategy. They do however have manager expertise which they combine with financial, human and technology resources for strategic decision making. Another dynamic capability would be that they are able to combine their technology resources with knowledge of engineering supplemented with marketing skills in order to create and improve their services to the customers. Finally also regarding the service provision, they are able to integrate the relations the employees have with the environment with management skills and to anticipate to a certain extend on the needs of the customers.

2. *Are there dynamic capabilities within Atlas NA that let it reconfigure the resources within the organization?*
   Again, the company because the company is relatively new, there are not yet that many processes in place that let managers reconfigure the existing resource base because there hasn't been a need for major changes in the value creating strategy of the business. The knowledge resources are still being developed from the starting point, and before they want to reconfigure and relocate these resources they need to be developed to a certain extend. However the services they provide to the customers are subject to the reconfiguring of resources. At the start they didn't have engineers available to support the services, and the engineer had to come from the headquarters in Germany. Recently they hired an engineer and they combined his skills and knowledge with other human resources and technology resources to offer a better service package to the customer. This is creating significantly more value for the customer, so it could be seen as a value creating strategy.

3. *Are there dynamic capabilities within Atlas NA that let it attract new resources or dispose obsolete ones?*
   Atlas NA has ways to attract new resources, but it hasn't had to dispose obsolete ones yet. However there are formal procedures in place to attract new resources, such as knowledge from the headquarters and the environment, and also for financial resources or human resources. These processes are more on a operational level than on a strategic level and are unlikely to create a new value creating strategy. One possible dynamic capability would be that the management knowledge and experience in the firm is used to match the required human resources to the changing environment needs by hiring the right people for the job and thereby also matching the value creating strategy of the firm to the environment.

Appendix D. Interview core competences

Interview 3 core competences
Respondent: Robert van de Pieterman.

1. What are the areas in which Atlas NA excels?
The areas in which Atlas NA as a separate entity excels at are the functions of marketing, service provision to the customers and customer relationship management.
Service provision, which is done after the products are sold is the area in which they excel the most. They receive feedback from the customers that they are satisfied with the solutions of Atlas NA to their problems.

2. Are these areas of excellence limited to Atlas NA or are they applicable to the whole corporation?

These areas of excellence are limited to Atlas North America. It cannot be said that these areas apply over the whole organization.

3. Is Atlas NA also performing well in relation to the competition?
Regarding marketing and customer relationship management, they are about as good as the competition. They are performing well but these are important areas in this business so the competition is also doing a good job on these functions. However the service provision is significantly better than that of the competitors.

4. Do the areas of excellence lead to a competitive advantage?
Since marketing and customer relationship management are done about equally good by the competition, they will not lead to a competitive advantage. Service provision however does, because it adds significant value for the customer and Atlas North America is doing it better than their competitors. Atlas NA also gets positive feedback about their service provision from the customers.

5. Is it the competitive advantage durable?
I would not say that the advantage is really durable. The service provision is difficult to substitute, but not that hard to imitate for the competitors if they want to spend some time and effort on it. The only thing about the service provision that might be hard to imitate for competitors, which are mostly larger companies, is that Atlas is still a small company, meaning that they have a high degree of flexibility and responsiveness to the customer. The larger organizations do not have this because they are bigger and have to deal with a higher degree of bureaucracy. However a higher degree of flexibility and responsiveness would not be impossible to attain for larger companies.

Appendix E. Organizational Chart