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Rise of a new Industry From a Strategic Perspective

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in the Management and Economics of Innovation Programme*

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ABSTRACT

Firms do not only compete with their direct competitors and a common fault in strategy formulation is the usage of a too narrow perspective. In order to form a competitive sustainable strategy, this thesis combines an internal analysis with an external analysis via the concept of business model. Thus, a new framework is created, which is applied to the heart rate monitor industry. The research method combines qualitative and quantitative studies in order to increase the chances of more robust and generalizable findings. Data was gathered through semi-structured interviews with leading managers and fitness coaches, and a semi-structured questionnaire to end-users.

The heart rate monitor industry is a young and fast developing industry, with a rapid technological development. As for many young industries, the industry is in a constant change. The primary purpose of this thesis is to provide a sustainable strategy for the new actor Activio. In order to fulfill that purpose the current situation of the industry must be analyzed. Thus, a secondary purpose is to audit the incumbent market situation.

The Swedish heart rate monitor industry can be divided into an indoor segment and an outdoor segment. Activio is positioned in the indoor segment while the main rivals are targeting the outdoor segment. However, the rivalry actors are emerging towards the indoor segment and outdoor segment. Thus the rivalry is increasing in Activio's main segment. In order to meet the increased competition, an entrance into the outdoor segment is suggested. This approach would have positive synergy effects in terms of strengthening also the firm's position in the indoor segment.

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1. INTRODUCTION

A common key in success-stories is a well formulated and successfully implemented strategy. There are several ways of creating a sustainable competitive strategy. Nevertheless it is not an easy task to create a successful one. A firm does not only compete with its direct competitors and therefore a common fault in strategy formulation is the usage of a too narrow perspective (Porter, 1979). Hence, a strategy formulation has to be formed on bases beyond its immediate competitors (Porter, 2008) and take the external environment into consideration.

Both internal analysis and external analysis are important in the strategy creation (Pisano and Teece 2007), and thus neither of them can be neglected in a successful strategy formulation. However, the link between internal and external analysis is not obvious. A business model is a road map for firms to do business, it shows how a firm creates and captures value (Magretta 2002), which are the basics for business. Since the business model is related to how the company captures value and also how it creates value for customers, this thesis proposes to use the concept of business model as a link between internal and external analysis. Accordingly, a new theoretical framework for strategy is created.

The framework is presented and tested through an empirical study on Activio, an actor in the Swedish heart rate monitor industry. It is a young and fast developing industry, with a rapid technological development (Nilsson, 1998). The popularity of heart rate monitors has increased and is today a very common apparatus in the fitness industry. The raised popularity and the increased demand has not significant amplified the number of actors in the Swedish market.

1.1. Purpose and Research Questions

The primary purpose is to develop a strategic framework that takes the concept of business model into consideration. The framework is going to provide a sustainable competitive strategy for the young actor Activio in the growing heart rate monitor industry. To fulfill this purpose, the incumbent situation within the industry must be determined and evaluated. Thus, a secondary purpose is to audit the market condition of the heart rate industry and develop a strategy for Activio. The research questions guiding the thesis are as follows:

How should a strategic framework be constructed in order to link internal and external analysis through the concept of business models?

Based on the framework, linking internal and external analysis, what is the most beneficial strategy for Activio?

1.2. Limitations

The thesis focuses on the Swedish heart rate industry from Activio's perspective. The thesis is limited to the Swedish market and focus on Activio and its main competitors, Suunto, Polar and Garmin. Thus, smaller heart rate monitor manufacturers and distributors will not be taken into consideration, which may affect the validity. Due to the fact that the study is limited to Sweden, upcoming trends and technologies in other countries are not taken into consideration.

2. THEORETICAL FRAMEWORK

The following section derives the theoretical framework. First, the concepts of strategy, competitive advantage and business model are discussed. Second, a number of analytical tools are presented, discussed and combined into a framework. The framework is based on an external analysis and an internal analysis. The internal part of the framework is first discussed then the external part is discussed. Third, the framework and the link between the internal and external part is discussed and presented.

2.1. Strategy as a concept

According to Grant (1991) and Ma (2003), strategy is about winning, whether it is on organizational level or individual level. Ma (2003) argues that winning from a strategy perspective is to creating superior customer value. A common key for success-stories is the usage of a deeply formulated and successfully implemented strategy (Ma, 2003). Therefore is a deeply formulated strategy of great importance (Grant, 1991). Grant (1991) believes that the core of satisfying long term goals is the firms' business strategy. Fenterseifer and Wilk (2003) believe that one of the central purposes in strategy formulation is to receive a competitive advantage. However all organization does not seek competitive advantage, e.g. non-profit organizations. Thus strategy should not always be conjoint with competitive advantage. The different views of strategy could occur from the fact that there is no general definition that defines strategy. For instance Dorf and Byers (2008) identify strategy as *"a plan or road map of the actions that a firm or organization will take to achieve its missions and goals"*. While Grant (1991) defines strategy as, *"the match an organization makes between its internal resources and skills...and the opportunities and risks created by its external environment"*. Mintzberg (1978) points out that *"strategy is not just a notion of how to deal with an enemy or a set of competitors or a market, as it is treated in so much of the literature and in its popular usage. It also draws us into some of the most fundamental issues about organization as instruments for collective perception and actions"*. The authors do also have different views of from where strategy embodies. There is an argument whether strategy embodies from resources, positioning or elsewhere. The fact that strategy can be used at all levels in an organization supports the argument that strategy can be created in several ways. Mintzberg (1975) supports this argumentation by pointing that there is not "one best way" of structuring organization but that it all depends on the difficulties a firm is facing. The fact that there is no pre-determined way of creating a strategy and that it can be built on different data stresses the argumentation that there is no universal formula for strategy formulation. Therefore, strategy should rather be looked at as a structured way of how to achieve predetermined goals.

This section argued that strategy creation is a plan or a roadmap to reach predetermined goals, and that it could be achieved in various ways. Next section will discuss the concept of competitive advantage.

2.2. Competitive advantage as a concept

Ma (1999) defines competitive advantage as; *"A firm has competitive advantage when it is able to create more economic value than its rival"*. There are different opinions where competitor advantage arises from. Dorf and Byers (2008) argues that there are three approaches to create a competitive tactic. First, *establish a competitive position within an industry and defend it*. The main goal is to position the company in a beneficial way regarding the firm's capabilities, and defend that position against competitors. Second, *focus on resources e.g. patent, brand, name reputation* (Rothaermel, 2008). The third approach is emergent and is based on *flexible and simple rules*. A firm selects a few strategic processes to

gain a competitive advantage via changing the roles of the market (Dorf & Byers, 2008). However, Porter (1980) argues that competitive advantage materializes from two generic strategies, cost leadership and differentiation in combination with a wide and narrow focus. Failure of competitive advantage amplifies when firm is stuck in the middle and thus aim to achieve both cost leadership and differentiation (Porter, 1980). On the other hand, Hill and Ireland (1987) points out that competitive advantage does not need to come from the entire firm. Small diversified business unit can result in a competitive advantage for the entire firm in four major ways: product market serves, technologies, logistics, and distinctive competences (Hill and Ireland, 1987). Thus, a firm with a competitive advantage can operate with an overall strategy with no competitive edge. A company can copy another's firm's strategy and benchmark their technology. However the configuration between technology, systems and routines cannot be copied and thus this configuration shapes competitive advantage (Millar and Whitney, 1999). Thus, competitive advantage does not need to arise from novelties. Moreover, competitive advantage does not necessary mean that e.g. goods are produces efficiently. However, they have to exceed its rivals in terms of value. According to Enders et al. (2009), value is embodied in three main categories; quality, speed and brand. Competitive advantage can be achieved through various ways. Therefore firms with a competitive advantage tend to create more value for its customers than rivalry firms. Thus, competitive advantage is to surpass its competitors in creating value for its customers.

2.3. Business model as a concept

Amit and Zott (2001) argue that business models are a template of how businesses operate towards their customers. Customers' satisfaction is the foundation of competitive advantage and business model is a core element for a successful strategy. However, a business model should not be mistaken as a strategy, even though many uses the term interchangeably (Margretta, 2002). Business models focus on value creation for the customers, while strategy also contains the financing perspective and thus includes shareholders perspective. A successful business model represents a better way than existing alternatives. It may bring value to a distinct group or replacing old behavior and thus become standard of next generation (Magretta, 2002). Thus, is business model is a template that captures value creation for customers and firms.

There are a variety of different business models. The differences in business models can be found in the different view of the concept. Osterwalder (2005) argues that there are two main views, one which emphasizes on how business is done and the other of how the model is being used. All authors do not agree with the term business model. For instance, Margretta (2002) finds that the term has become popular and used very sloppy, and thus lead to a confusing concept. However, the fact that most authors are meaning the same and hence only expressing themselves different, and that business model only are a template for company which makes every business model unique could be a reason for this confusion. There have been attempts in classifying business models. The purpose of the business models are that it serves as a conceptualization and architectural link between the businesses and its customers (Amit and Zott 2001), and enabling entrepreneurs to explore the market and bring their innovations into the market. Thus, business model is the attribute strategy rests on containing both internal and external analysis. Moreover, used in the framework as a bridge between the internal analysis and the external analysis.

2.4. Choice of strategy framework

After defining strategy, competitive advantage and business model, the focus will be on the framework. Therefore, a discussion of what to include in the framework is carried out in the section below.

There are two different approaches to analyze customers' preferences, internal analysis and external analysis (Luning et al., 2006). Internal analysis focuses on the organization, whereas external analysis focuses on the environment. Thus, even though internal and external analysis methods are based on the same data the two methods take different perspectives into consideration and thus different conclusions are drawn (Luning et al., 2006). There is an argument whether strategy materializes from internal factors, resources and capabilities, or external factors, positioning activities. Andersén (2010) argues that internal analysis is more suited for strategy formulation than external analysis. Resources can have an impact on the growth and strategy in general (Andersen and Kheam, 1998). A benefit with a strategy built on resources is that they are hard to imitate (Andersén, 2010). However, managers often focus on the industry dimension when forming a strategy even though the dimensions are beyond their control (Pisano and Teece, 2007). Even due resources are hard to imitate and therefore favorable for strategy formulation, the external factors should not be neglected. An organization is dependent on its environment and thus, managers should incorporate both external and internal factors in the strategy. Thus, a strategy framework should include both internal and external analysis. The two following sections will focus on internal analysis and external analysis, starting with the internal analysis.

2.4.1. Positioning as a concept

Positioning is the process of establishing the image of an organization or product (Zineldin and Bredenl w, 2001). Sustainable competitive positioning emerges from the market offering (Darling, 2001). According to Zineldin and Bredenl w (2001), there are a number of ways to develop and maintain the positioning of a product, brand, or firm, for instance it can be achieved through segmentation, or differentiation among others. Darling (2001) argues that there are two main steps in establishing successful positioning: first, establish the market offering in the minds of the customers, and second, differentiate the market offering from the competitors in the mind of the customers. According to Porter (1980), positioning is an important part in determining a firm's success, it determines whether a firm's profitability is above or below the industry average. However, there is an argument of whether positioning only can be used for shaping strategies or if it can be used in marketing (Blankson et al. 2000). Although positioning seems vital for a firm's strategy, based on its strong relation to the firm's brand, price and product quality. Darling (2001) argues that competitive positioning involves a formulation of a market offering and thus, successful positioning does not emerge from a specific product, it is materialized from a mixture of matching elements offered to the minds of the customers. Nevertheless, Dibb and Simkin (1991) argue that competitive positioning forms through segmentation and targeting. Darling (2001) points out that successful positioning consists of two major elements, *establishing the initial market offering in the mind of customers*, and *differentiating the market offering from competitors in the mind of customers*. Darling (2001) argues that the concept of positioning does not emerge for the market offering however, it formulates the offering. Thus, it is accomplished through customers' mindset rather than a function of a product. Positioning is vital to a company, even though the positioning as a concept can be considered abstract. The fact that many find the concept dilute can be a consequence of that a firm's positioning is not only formed by themselves. The positioning is a result of their customers' mindset. This mindset is a result on

their opinion of the firm in relation to their perspective of the rival firms. Thus, rival firms' have an indirect effect on a firm's position.

This section has argued of the importance of a beneficial position. Position activities suggest how customer value can be achieved. Next section focuses on how to capture value. Thus the following section will audit external and internal analysis.

2.5. External analysis

As discussed earlier, external analysis is an important element in forming a sustainable strategy. Thus, this section will discuss and present the tools used in the external part of the used framework. First, a description of the concept positioning is carried out. Later the external part of the framework is presented.

2.5.1. Choice of external analysis

Rothaermel (2008) argues that profitability of an industry materialize from the industry's underlying structure. The structure of an industry differs between industries (Porter, 1985) and thus has to be investigated for each new industry that is analyzed. Porter's five forces framework is developed for industry analysis and strategy development. The framework is the most common tool in analyzing industry structure and is well-known. The framework shows the overall profitability of the industry and thus the attractiveness of that particular market. Porter's five force model consist of; *Threats of New Entrance*, *Bargain Power of Suppliers*, *Bargain Power of Buyers*, *Threats of Substitute*, and *Rivalry Among Existing Competitors* (see figure 4). The collective strength of the five forces enables determination of a firm's ability within an industry (Porter, 1973). Porter's five forces model does also aid managers to understand the industry structure and identify threats and opportunities (Rothaermel, 2008). Thus, Porter's five forces model can be used as an analytic tool, to deeply understand and to distinguish the industry's dimensions and performance.

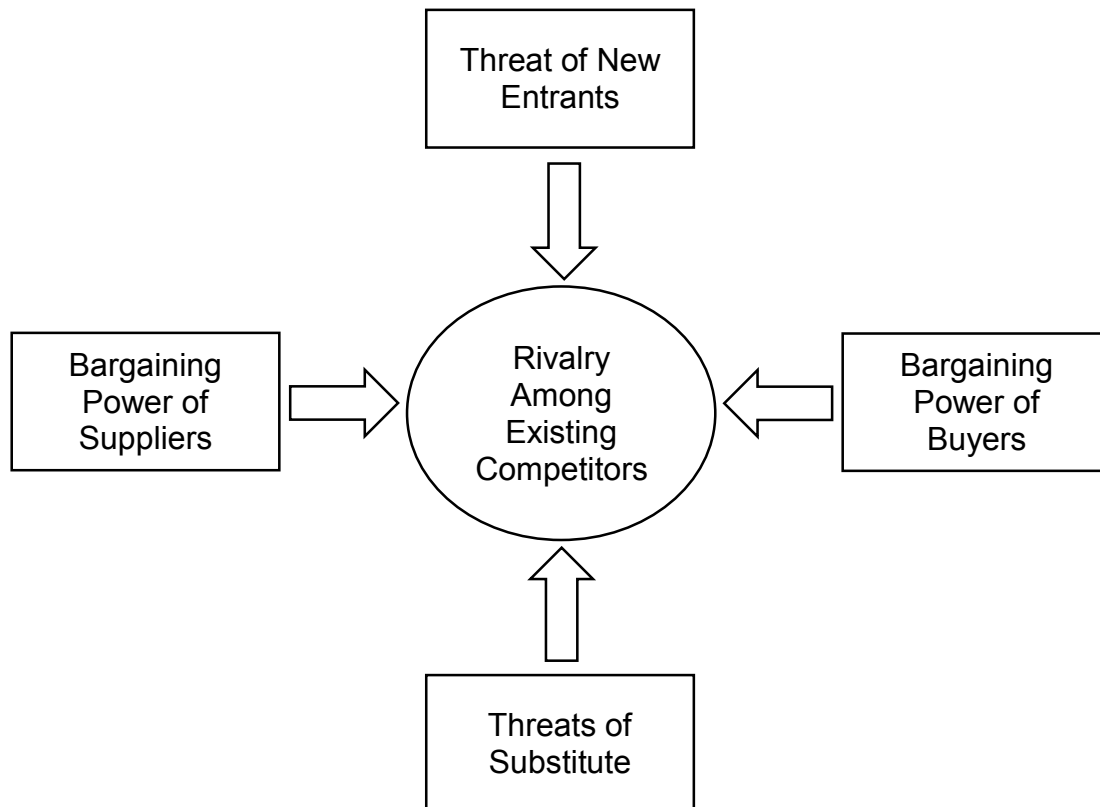


Figure 3. Porter's five forces model.

According to Byers and Dorf (2008), the five forces model can be extended into a six forces model. The sixth force represents the *Bargain Power of Complementors* and has the ability to manage issues of complementary products (Byers and Dorf, 2008). Porter (2008) argues that complementary products and moreover services along with Industry growth rate, Technology and Innovation, and Government are not forces, they are factors which are to taken into consideration in order to avoid common pitfalls. Moreover, Porter's five forces framework does not have the ability to audit the positioning of different actors, however the framework can be complemented with Porter's four generic strategies to determine firms' generic strategies (Porter, 1979) which is an underlying aim. The fact that Porter's five forces can define the industry's dimensions and performance, be a part in forming strategies, and can be complemented by Porter's four generic strategies, it is chosen to be included in the framework and is mainly used to determine the industries dimensions.

2.5.1.1. Porter's five forces

The following section aims to present each force in Porter's five forces model. The model has a dual purpose in the framework, analysis of the industry dimension and supports the foundation for a competitive strategy.

Porter (1979) argues that it is easy to study competition to narrow. Nevertheless, the collective strength of an industry goes beyond the established actors (Porter, 1979). A firm does not only compete with its direct competitors and therefore a common fault in strategy formulation is the usage of a too narrow perspective. Hence, a strategy formulation has to be formed on bases beyond its immediate competitors (Porter, 2008). Porter (1979) argues that the nature and degree of competition generates from five forces, *the threat of new entrants*,

bargain power of suppliers, threat of substitutions, bargain power of buyers, and rivalry within the industry. Moreover, the understanding the competitive forces and their underlying courses provides information of the industries roots (Porter, 2008). The collective strength of the five forces determines a firm's ability to earn within an industry (Porter, 1979). The strength of each force is a function of the structure, or the underlying economic and technical characteristics of an industry and thus, the strength of these forces differs between industries. However, even if the industry structure is relatively stable it changes over time as the industry evolves. The framework enables a comprehensive degree of actors' ability to capture value within an industry. The ability of the different actors depends on their strength and weakness in the different forces (Enders et al., 2009). Porter (1985) argues that the ultimate aim of competitive strategy is to handle the rules of industry in favor of the firm, the rules are embodied in Porter's five forces. Each of the five forces is presented below.

2.5.1.1.1. Threats of entries

New entries increase the competition within the industry and thus lower the existing firms' market shares (Porter, 2008). Entry barriers are factors which determine the cost for potential competitors to enter the market. The greater barriers the higher costs must the potential competitors bear to enter (Byers and Dorf, 2008). The barriers of entry has according to Porter seven sources; *supply-side economies of scale, demand-side benefits of scale, customer switching costs, capital requirements, incumbency advantage, Unequal access to distribution channels and restrictive government policy* (Porter, 2008). In an industry where no entry barriers exist, prices and profits tend towards competitive level regardless the number of actors.

2.5.1.1.2. Suppliers' power

In a price perspective, powerful suppliers are a threat to whatever industry (Porter, 2008) mainly due to their ability to decrease an industry's profitability. Quality and service are also two factors which can be limiting a company's ability to serve customers in a beneficial way. Moreover, switching cost among suppliers are another obstacle firms faces within certain industries. The switching costs are the cost of switching supplier and are common in industries where it is hard to play suppliers against each other (Porter, 2008). This can be the case of suppliers offering products which are differentiated. Further, supplier's power increases if there are no substitutes within the market (Porter, 2008). Thus, buyers cannot choose among different suppliers. Also, groups of suppliers working together increases a threat for buyers in terms of higher costs, lower quality and less service.

2.5.1.1.3. Buyer's power

Opposite to powerful suppliers are powerful customers. Powerful customers can have a larger opportunity to force down prices and also demanding better service and quality. Buyers have negotiation advantage if the industry is price sensitive (Porter, 2008). In order to increase the power of customers for smaller companies, buyers can cooperate and purchase large volumes together (Porter, 2008), since large volume buyers are more powerful especially in high fixed costs industries. Buyers' power increases if the products are standardized and undifferentiated, thus the more standardized a product is the higher possibility for buyers of having a higher number of actors to choose from. Moreover, the lower switching cost the higher will the power of the buyers become. However, different buyers are focusing and aiming for different features, there are e.g. quality-buyers aiming for good quality product, these customers are less price sensitive than buyers focusing on costs (Porter, 2008).

2.5.1.1.4. Substitutions

Substitutions are similar products, which service the same purpose and thus consumers can change to other products which can come from substitutions downstream in the value chain. Substitutes are always present, however, according to Porter (2008). When the threats from substitutions are high the profitability of the industry will suffer. Substitute products will often pressure the price and the profitability of the industry declines. The threat of substitutions is especially high when the substitute offers an attractive product. Moreover, when the switching cost is low it is a major threat to the older actor. Further, firms should be alert on substitution which change the material, changing material can lower the prices drastically or increase the performances of the products for instance replacing steel with plastic.

2.5.1.1.5. Rivalry

Rivalry among industry actors decreases the profitability of an industry, but however, increases consumers' value due to better service, quality and lower prices. The rivalry of an industry increases if there are numerous competitors with equal size and power. Moreover, if the industry is slow growing the rivalry of the existing market share will increase. An industry may not only have entry barriers but exit barriers. These barriers will keep low profit companies in the industry for a longer term than industries with no exit barriers. Also, rivalry tends to increase if firms within the industry are highly committed. These firms arise from various different reasons however they especially constitute a threat if their goal goes beyond profitability. Moreover, the threat increases if the competitors have a hard time to read each other and thus a competing firm can change the dimension that will have major influence on profitability (Porter, 2008). Competition can take many faces: price, different products features, support service, delivery time, and brand image (Porter, 2008). Price rivalry occurs if products or services are almost identical low or few switching costs among competitors, but also if an industry has high fixed costs and low marginal costs. The case of low marginal costs, actors tend to cut their prices close to their margins and sometimes below average costs.

2.6. Internal analysis

This section is dedicated to internal analysis. The boundaries between resources and capabilities are not clear (Andersen and Kheam, 1998). Thus the section begins with the presentation of the concepts of resources and capabilities. Later, the internal tool that is used in the framework is discussed.

2.6.1. Resources as a concept

There are different views of how to determine and group resources. Grant (1991) points out that there are three types of resources, *Physical resources*, e.g. land, plants, equipment, natural resources and raw materials, *Human resources*, e.g. productive, technical and marginal workers, and *Organizational resources*, which includes the routines of the Physical and Human resources. Moreover, Newbert et al. (2008) divides resources into five categories. However, the most common way to assemble resources is to group them into two main categories, tangible and intangible resources (Knott, 2009). Tangible resources are resources such as land, buildings, plants, equipment. Intangible resources are brand name, reputation, patents, and technological know-how (Rothaermel, 2008). Andersen and Kheam (1998) point out that there is no general disagreement regarding what encompasses tangible resources.

Moreover, intangible resources include knowledge, organizational culture, management, and coordination ability among others (Wilk and Fensterseifen, 2003). It seems that Grant's (1991) and Newbert et al. (2008) categorization of resources is only a breakdown of the tangible and intangible concepts. Therefore resources should be grouped into tangible and intangible.

2.6.2. Capabilities as a concept

Both Rothaermel (2008), and Wilk and Fensterseifen (2003) argue that capabilities are the skills of coordinating resources and deploying them strategically. However, Newbert et al. (2008) defines capabilities as, "*the intangible process (e.g. skills, abilities, know-how, expertise, designs, management) which a firm exploits resources in the executive of its day-to-day operations*". Capabilities exist in the firm's ability to maintain and form customer relationship, manufacture and distributing products, and develop new products (Cravens et al., 1997). Thus, capabilities are in other words the maintenance and coordination of the resources.

There are different kinds of capabilities, some are unique for a specific firm and thus there are different approaches to classify them. Firms can view capabilities as processes which are deployed inside-to-out and outside –to-in of an organization and audit capabilities which integrate inside and outside processes (Cravens et al., 1997). Another, approach is to audit tangible and intangible resources that create high customer values and utilize the underlying factors of the created value (Cravens et al., 1997). Capabilities and resources can be defined as *strategic* when they are rare, valuable, inimitable, non-substitutable, or can in any way be a foundation to a competitive advantage (Wilk and Fensterseifen, 2003).

2.6.3. Choice of internal analysis

There are several frameworks that classify and determine resources and capabilities. Two of them are the VRIO and the VRIM framework. The VIRO technique, value- rarity- limitability- organizational, is an advocated framework to verify firm's resources (Knott, 2009). The framework is founded on four different questions; the question of Value, the question of Rarity, the question of Imitability, and the question of Organization. The VIRN method, valuable (V), rare in terms of scarcity (R), imitation protected (I), and substitution protected (N) analyzes a firm's organizational performance though reviewing its functions and operation (Barney, 1991). Thus, the firm needs to be familiar with its resources in order to gain a competitive advantage. However, even though a firm has all the VIRN attributes, it needs the capabilities to deploy the attributes in a proper manner. The firm will otherwise fail in the ambition of a competitive advantage (Rothaermel, 2008). Thus, a firm can fail to gain a competitive advantage even though it has all the VIRN attributes.

Grant (1991) has formulated a well-known and established framework. Grant (1991) classifies and identifies a firm's resources and capabilities and compares them with the rival firm's resources and capabilities in order to form a strategy. The framework consists of five steps; first step is to identify and classify a firm's resources and classify them in relation to the firm's competitors and further to identify opportunities to utilize resources. Second, identify capabilities and further audit what the firm can do more effectively than its rivals. Third, gather potential recourses and capabilities to determine potential competitive advantage. Fourth, select a strategy based on the previous three steps, and finally, identify gaps in the strategy (Grant, 1991).

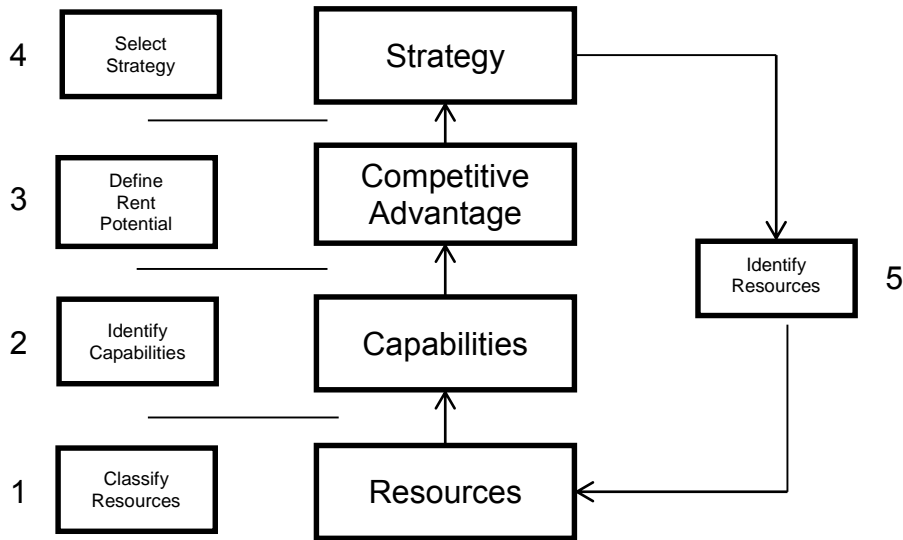


Figure 1, Grant's (1991) resource based framework

All the three methods of internal analysis are useful. However, Grant's (1991) theory is the most suitable theory in this specific case due to that strategy emerges for both internal and external factors and thus the framework is not entirely based on resources and capabilities they are also evaluated in relation towards the competitors resources. Thus the Grants (1991) framework will be included in the strategic framework.

2.7. The framework

The following section presents the derived framework.

This chapter has argued and discussed the tools that are used in the framework. It was concluded that both internal and external environment have to be taken into consideration when forming a sustainable strategy, and that value creation is a central part in both internal and external analysis. Internal analysis forms a competitive advantage via the firm's resources and capabilities and competitive advantage can be defined as creating superior customer value than rival firms. The external analysis aims also to creating customer value, however through positioning activities. Therefore, the concept of business model can via its value creation be a brew between the internal part and the external part of the framework.

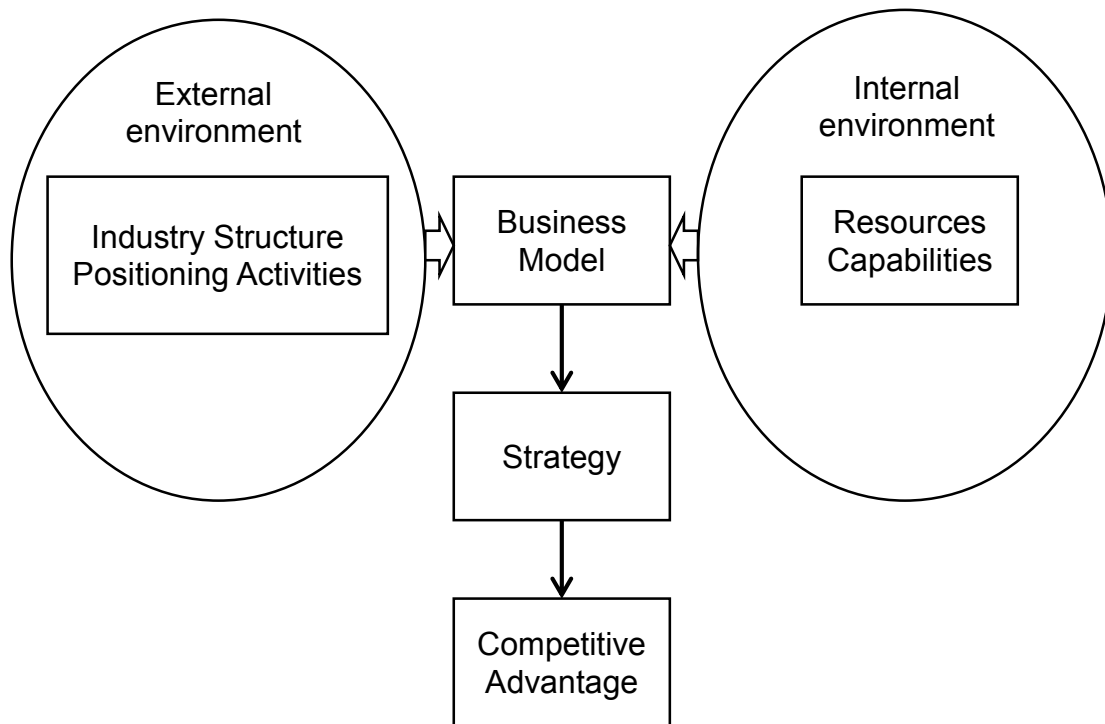


Figure 6 The theoretical framework

Figure 6 shows the theoretical framework. Internal perspective and external perspective are connected via the concept of business model. Value creation is the central part in the framework. Value creation is a part of both internal and external analysis and thus, the business model function as a brew between internal analysis and external analysis in the framework. As stated in the previous section, business model should not be mistaken for strategy. Business model is more of a template where a firm's strategy is formed. Therefore it should be viewed as a brew between the internal and external part that capture and creates customers value.

3. METODOLOGY

The following section presents the methodology and motivates the used research strategy. The section begins with presenting the research design, including the choice and implementation of research methods. Last, a discussion of reliability and validity is carried out.

3.1. Research Design

First, a topic and a purpose were determined. The topic was decided to involve a market analysis of Activios core business, the heart rate monitor. It was limited to the Swedish market due to time and data limitation. From the topic a purpose was formed, it focused on a sustainable compatible strategy for Activio (see section 1). Based on a purpose, a framework (see section 2) evolved. The framework was formed by accepted analytic tools from well known authors. The aim of the framework was to analyze the gathered data from an empirical gathering. The data was later analyzed in the framework, discussed and concluded in relation to the purpose. The following sections will focus on the method used in the empirical gathering. The data collection was divided into three steps first

3.1.1. Qualitative vs. quantitative research

According to Scandura and Williams (2000), all research methods have flaws. Therefore it is fundamental to choose a method, which minimizes the number of flaws. Newman and Benz (1998) state, all research emerges from two major methods, qualitative and quantitative. Qualitative research methods are often headed under ethnography which includes; case studies, field studies, grounded studies, document studies, naturalistic inquiry, observation studies, interview studies and description studies. Quantitative studies fall under empirical studies or statistic studies and are a dominant method in research science (Newman and Benz, 1998). There are two major field in qualitative research; participant observation and in-depth interview which has five different features; naturalistic, descriptive data, concern with process and meaning, consists of field work where data is gathered in its natural environment and in-depth interviewing open ended questions are used to get as detailed information as possible (Bogdan and Biken, 2007). However, Torst (2005) are not fond of using the term in-depth interviews, due to it can be known as psychoanalytic thinking. Cepeda and Martins (2005) points, qualitative research is important due to it aids researcher's to discovers gap and become further objective, hence the likelihood of being colored by someone else opinion decreases. Research strategies can also be categorized into eight different types; literature review, sample survey, laboratory experiment, experimental simulation, field experiment, judgment tests, computer simulation and field studies which have two sub-categories; primary and secondary data (Bogdan and Biken, 2007). Scandura and Williams (2000) argue, a high variety of methods increases chances of more robust and generalizable findings. Also Newman and Benz (1998) argue, research is often a combination of quantitative and qualitative methods, starting with a qualitative approach followed by a quantitative method. Thus, the research method aims to combine qualitative and quantitative studies in this thesis.

3.1.2. Interview design

There are various forms of interview designs (Turner, 2010). The choice of design fell on Trost 2005. The choice was based on its straightforward design and its easiness to overlook and follow. Also, the design has similarities with the overall design of the thesis and thus easy to adopt for the reader. Trost (2005) argues, qualitative interview studies can be divided into seven stages. The seven stages are; *Thematization, Design, Interview, Transfer to processable form, Arrangement and analysis, Result, and Reporting*. Both the interviewing process and the survey were based on Trost's (2005) seven steps.

- *Thematization* – determine the purpose and clarify the problem areas of the study.
- *Design* - Detailed planning of the study. The choice of method and the configuration of the questionnaires are crucial in qualitative studies.
- *The interview* – the interviewee has to understand the questions, not only verbally.
- *Transferred to processable form* - the material should be processed and analyzed. Thus, it has to be arranged in order to be analyzed.
- *Arrangement and analysis* – processing the material from a theoretical perspective and analyze
- *Result* - The analysis provide clues to what the result will be. In this phase the question is if the result can for a critical review.
- *Reporting* – time to write the report.

3.1.2.1. Thematization

The data gathering aimed to clarify the market conditions in the heart rate monitor industry, and a foundation for a sustainable strategy. In order to collect data in a structured way, the data gathering was divided into three steps. First, interviews with professors and leading directors within the industry. Second, interviews with fitness coaches, finally, a semi-structured questionnaire to the industry's end-users was carried out. The three steps aim to cover the entire industry, from Professors and Directors to end-users, and also cover both the in-door and outdoor segments. The interviewees were chosen in consultation with Activio. The first step included; Daniele Cardinale director at Bosön Academy, Alexander Ivardsson director at GIH, and Daniel Magnegård CEO of Activio. The second step included, fitness coaches who worked with the leading system on daily basis. The fitness coaches were selected in order to gain as much information of the different systems as possible. The third step included end-users. A questionnaire was handed out under three different workout sessions with Activios fitness system. The questionnaire was responded by 60 persons with a respond rate at 75 percent. Due to ethical problems none of Activio's main competitor's were contacted and interviewed. Activio asked to keep the study secret and thus none of their main competitors were interviewed. The lack of data from Activio's competitors is a major drawback to the thesis. Even due the fitness coaches and the directors contributed their knowledge of Activios main competitors (Suunto, Polar and Garmin), it could be considered as a secondary source. The three steps aims to provide data to the main blocks in the framework. The first interview step, provide data to the external analysis. While the second interview step contribute to the internal analysis. The two interview steps the value creation activities. The questionnaire's provide information of the customers' wants in relation to competing firms, and thus assure of a beneficial positioning.

3.1.2.2. Design

According to Trost (2005), interviews can be structured or unstructured. Normally, qualitative studies consist of structured interviews, which are characterized by preprinted questions.

Interview based questionnaires with open-ended questions are referred to unstructured interviews. The structured interviews have a low variation of the data while unstructured are flexible. An interview can also be distinguished as standardized and un-standardized. Standardized interviews exemplifies by identical question in similar order are asked to at each interview. Moreover, same verbal tone and appearance from the interviewer at all questions. Low grade of standardization is the opposite. According to Trost (2005), most quantitative studies have a high grad of standardization. On the contrary, research papers are usually based on qualitative studies, with a high grad of structured and a low grad of standardization (Trost, 2005). Meanwhile Semi-structured interviews consist of both open and closed questions. Thus, provides both a high reliability and validity with being flexible. According to Longhurst (2009), semi-structure interviews are based on a list of predetermined questions. The benefit with semi-structured interviews is that they are more flexible than structured interviews due to that new questions can be brought up under the interview. Hence, in contrast to structured interviews the likelihood of gathering more information is greater. However Longhurst (2009) argues, semi-structured interview do not offer the entire truth but they do offer an insights into what the interviewee think. And thus the validation and reliability is important in qualitative studies (see section 3.2.5. and 3.2.6.).

Two pre-structured questionnaires were created, one for the directors and one for the fitness coaches. The questionnaire for the directors included questions of the overall industry while the questionnaire for the fitness coaches was focus more on the equipment. The questionnaires were semi-structured. Semi-structured questionnaires were chosen because it allowed the interviewer to be flexible and at the same time obtain a high validity of the study. It is the most widely used method and allows the interviewer to deeply understanding of both social and personal matters (Crabtree and DiCicco-Bloom, 2006). Thus, enables to gain as much information as possible from the interviewees. In order to gain as high reliability and as possible the design of the interview was same for interviewees for all the directors moreover was the design for the fitness coaches the same. The pre-structured questionnaire can be seen in Appendix 2 and 3.

3.1.2.3. Interviews

The interviewing process started with collecting data about the overall industry and its major actors. Thus, interviews with three directors, Daniele Cardinale, Alexander Ivardsson and Daniel Magnegård, were carried out. Cardinale works as a developer and researcher in Human Movement Science at Bosön Academy. He has a vast experience regarding heart rate monitors and has tested all the major brands. The interview with Cardinale was held at Bosön, Lidingö, outside Stockholm, Sweden. Alexander Ivardsson works as a laboratory coordinator and teacher at The Swedish School of Sports and Health Science (GIH). The interview was held at GHI, Stockholm, Sweden. GHI has Suunto's and Activio's Team-Sport systems however not Polar's system. Therefore, Ivardsson has vast experience of Activio's and Suunto's systems and moderate experience of Polar's system. The third interviewee was Daniel Magnegård, CEO of Activio. The interview was held at Activio headquarter, Stockholm, Sweden. Magnegård has significant knowledge of all the major brands in Sweden due to his position as CEO of Activio. The interviewees were chosen due to their broad knowledge and long experience of the industry. Thus, the semi-structured interview questions towards them where focus on the external analysis and general question of the industry.

Second step in the process aimed to provide detailed information of the different actors products in the indoor segment. Thus, three fitness coaches were chosen. They were chosen

based on the heart rate monitor system in their fitness center. Thus, three fitness coaches, using one of the three different heart rate monitor system were interviewed. The interviewees were; Anne Rosén at Balace Training, using Polar equipment, Christina Lundbäck at Planet Fitness, using Suunto's equipment, and Anna Videhall at SATS Kompassen, using Activio's system. The Interviewees were chosen based on their knowledge of how the different heart rate monitor systems worked in reality and thus their ability to evaluate the differences between the brands. Due to their broad knowledge of the different brands, the semi-structured questionnaires used in the interviews were focused on the pros and cons of the different brands.

3.1.2.4. Questionnaires

The third step, a survey were constructed and carried out parallel with the interviews at the three different fitness centers in order to gain the end users' perspective. The questions for the survey were based on the answers from the interviews and the put together with Magnegård in order to serve Activio's future interests. The main purpose of the survey was to gather information from the end users and thus gain the perspective from Activio's clients, the end-users. The survey was an important step in formulating a strategy and to be the foundation of a business model. It audits the wants and needs of the clients and thus has significant importance in order to create value for Activio and thus provides information for beneficial positioning. To gain a significant amount of data a survey based collection method were chosen rather than an interview method. The survey was carried out after three Spinning-classes at SATS Zenit, Stockholm. The fitness center was chosen for two reasons. First, to reach consumers using heart rate monitors and gain a significant number of responses. Second, receive data about Activio's product for future development and thus gather information of customers needs in purpose to find a future compatible strategy for Activio. Thus, SATS Zenits was chosen based on their connection to Activio's and the usage of a heart rate monitor system. The choice of the fitness centers was based on the heart rate monitor systems. The questionnaire carried out at three spinning passes in April 2010. The main purpose of the questionnaire was to audit the end-users habits, values, wishes and needs. There were a total of 60 respondents which was about 75 percent of the participants. The fact that the survey was carried out after spinning classes could have affected the response rate. The majority of those who did not participate were in a hurry and did not have the time to fill in the questionnaire. In order to gain as high response rate as possible the survey could be filled in both before and after the session.

According to Fuchs (2009), there are two types of errors which harm the accuracy in a questionnaire, systematic errors and random errors. Random errors are usually closing each other out. On the contrary, systematic errors shift the survey findings from its true values (Fuchs, 2009). A systematic error can e.g. be an incorrect formulated question (Fuchs, 2009). The survey was pre-tested to minimize the systematic errors. The questionnaire had a semi-structured design, thus consisted of open and closed ended question. The questionnaire can be seen in Appendix 3.

3.2. Reliability

It is essential to be rigorous in qualitative studies so that the findings can be convincing (Long & Johanson, 2002). Reliability proposes the truth of the findings. Thus, new measurements in a different time ought to have similar outcome. Further, high reliability is a necessarily for a study to be trustworthy. However, in most cases it is extremely hard to demonstrate reliability (Long & Johnson, 2002). The higher the standardization of an interview the higher is the

reliability (Trost, 2005). Long and Johnason (2002) argue, reliability is a concept independent of alternative terminology. However, Qualitative studies have often low reliability due to a low standardization (Trost, 2005). Moreover, high reliability is important due to a misinterpretation can have huge impact on the analysis. Thus, in order to increase the reliability the questions were asked in the native language of interviewers, Swedish, except for Chardinale, who was interviewed in his native language, English. According to Trost (2005), the concept of reliability can be divided into four sub-groups.

- *Coherences* - Similarities between the questions, aiming to measure the same thing.
- *Precision* - Precision- related to the interviewer's approach to recording responses, it can of course be the way the respondents ticked the boxes of the questionnaire form.
- *Objectivity* - Has to do with the different interviewers way to record, if they register the same thing the same is the objectivism high.
- *Constancy* - Take up the time factor and assume that the phenomena or attitude do not change over time.

To obtain a high reliability a number of persons were interviewed in a systematic order. The research design aimed to start with a broader view, the professors, and end with a narrow perspective, the end-users. There are immediate risks for misinterpretations in qualitative studies. Thus, the questionnaires were design with several questions was addressed to similar subject so that all perspective was utilized. Also, the magnitude of the graphical design increases the likelihood of a higher answering precision. The design was not the only obstacle with the survey. The questionnaire was distributed after the spinning classes. Thus, the responded could have suffered from fatigue which would have an impact on the results. This could have been promoted by using on-line survey. However, the response would have dropped due to lack of interest. Thus, in comparison to the interview questionnaires was the magnitude of the survey's design to a greater importance. In order to simplify the survey for the respondents and increase the reliability the survey had more closed questions than the other two questionnaires. Moreover, the interpretation of the data the survey and the interviews were made by one person.

3.3. Validity

Validity aims to measure the relevance of the context. A study should always endeavor as high validity and reliability as possible. It emphasizes on measuring the right things at the right time. High reliability does not guarantee high validity however high validity dose require high reliability. In quantitative studies validity can be divided into inner validity and outer validity (Trost, 2005). Validity is an essential element in qualitative research. However, alternative strategies are essential to insure the secure a reasonable validity (Long & Johnson, 2002). The concept of validity is used in different ways depending on if it is a quantities or qualitative study. Validity can be categorized in two major groups, internal and external validity. Internal validity approximates the relationship between cause and effect. Thus, characterized via how the research methodology is addressed to the purpose. Thus to gain a high validity in the thesis the methodology was carefully considered in order to fit the purpose. The choice of using several empirical sources was a choice made to increase the validity of the thesis by addressing the purpose in a significant way.

4. ANALYSIS

The following section presents the empirical findings. First, the background of the heart rate monitor industry is presented. Second, the positioning of the different actors and their core strategy is presented. Third, the results from the empirical analysis are presented, based on the framework, starting with the external analysis and followed by the internal analysis. Finally, the results of the questionnaire are presented.

4.1. Industry Background

There are a high number of actors in Swedish heart rate monitor industry. However, the Swedish market does only consist of four major actors; Activio, Suunto, Polar and Garmin. As stated in limitation (see section 1.3.) the thesis is focused on these four major actors and thus the analysis is limited to these four actors.

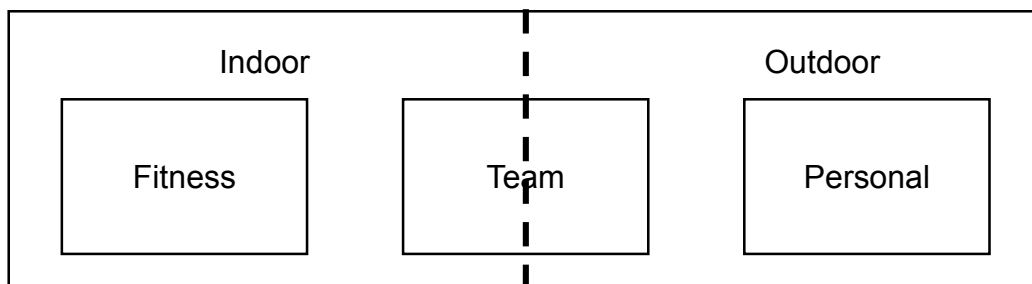


Figure 7, The main segments in the heart rate monitor industry

The figure above presents the two main segments; indoor and outdoor, and the three product segments; Fitness, Team-Sports, and Private. The indoor segment consists of fitness and sports companies while the outdoor segment consists of end users, private persons. Activio targets the indoor segment, while Activio's main competitors, Polar, Suunto, and Garmin, target the outdoor segment (Magnegård, Ivardsson, Cardinale).

4.2. External Analysis

According to Cardinale, Ivardsson, and Magnegård, there are major differences between the indoor and the outdoor segments. Due to product similarities in terms of technology and performance, and lack of differentiated products, the fitness segment can be considered more homogenous in comparison with the private segment. The fitness coaches, Lundström and Rosén claim that the Fitness segment can be divided into classes and non-classes. Activio is currently targeting the indoor segment via spinning classes while Suunto and Polar are targeting the indoor segment via dynamic systems enabling non-class participants' usage (Rosén, Lundström). Cardinale states that Activio is the strongest actor within the Fitness segment, Polar in the Private segment, and Suunto's a mixture between the two. Moreover, Cardinale rank Polar strongest in terms in overall performance, Activio second and Suunto third among the three. However, Cardinale and Ivardsson argue that it is difficult to positioning Polar's and Suunto's in the outdoor market due to their market coverage. Polar and Suunto have applied Dibb and Simkin (1991) theory, targeting a myriad of segments and therefore offering both low-cost and differentiation products. Nevertheless, Garmin applies a niche strategy and are positioned in the premium segment, targeting clients with an interest of an integrated GPS. Moreover, it is hard to positioning Polar and Suunto in the indoor segment due to the fact that they are developing their system and thus have strategically selected a few number of fitness centers to be their pilot facilities. Suunto and Polar have technology

problems with their Team-Sports products (Ivardsson and Magnegård). Thus, a future success for Polar and Suunto in the Fitness segment is not certain due to technological similarities with the Team-Sports segment. However, Suunto and Polar systems are only available in some pilot facilities. Therefore, their systems will probably be further developed before launching them to a broader market.

Moreover, Ivardsson, argues that Polar had to retrieve products in the private segment from the market due to technology problems caused by a too early launch.

4.2.1. Porter's five forces

The following section presents the market conditions within the two main segments, indoor and outdoor. Activio is positioned in the indoor segment and have products in both Fitness and Team-Sports segments. Suunto and Polar have product in both the indoor and the outdoor segments, Garmin has only products in the outdoor segment. The conditions are exposed via Porter's five forces (see section 3.2).

4.2.1.1. Threats of entries

According to Magnegård, the heart rate monitor industry is a high technological industry. Porter (2008) argues, high-tech industry has higher entry barriers than low-tech industries due to the need of vital knowledge to enter the industry. Hence, it is costly for companies to obtain necessary knowledge in order to stay competitive within the industry. The knowledge can either be purchased or developed, however industry network and distribution network (Porter, 2008), cannot always be purchased and thus very time consuming to enhance. Moreover, the fact that Polar uses Balance Training as pilot facility can be a consequence of the high entry barriers of the indoor segment. Rosén sees an increasing interest in heart rate monitor classes and thus there can be new entrance. Personal heart rate monitors have a more basic technology and can be developed at a lower cost. Therefore, the entry barriers in the outdoor segment are lower than in the indoor segment. Based on Suunto's and Polar's technological issues in the Team-Sports segment and the fact they are targeting a low number of fitness centers indicates that the fitness segment has relatively high entry barriers. Moreover, the diversified number of actors between the indoor and outdoor segment confirms that the entry barriers in the outdoor segment is not as high as in the indoor segment.

4.2.1.2. Rivalry

There are a higher number of actors in the outdoor than in the indoor segment (Magnegård). The rivalry increases if there is a myriad of equal actors (Porter, 2008). Thus, based on the higher number of actors in outdoor segment, the rivalry can be considered stiff. Further, Suunto, Garmin and Polar have products in the all price levels. The fitness market consists of mainly one actor Activio, even though Suunto and Polar aim to enter the fitness segment with various results. Thus, the intensity in rivalry differs between the indoor segment and the outdoor segment. In order to gain a sustainable competitive advantage in an environment with an increasing rivalry, continuous improvements are essential. Even though the rivalry is low in the indoor segment the rivalry will increase over time. Moreover, both Suunto and Polar, has the strategy of testing their products and thus, the fitness centers have had some problems with their equipment, however, the performance is increasing over time. Thus, the likelihood of Suunto and Polar increasing their market shares in Sweden and hence increased rivalry is most likely.

4.2.1.3. Suppliers bargain power

Contrary to Suunto and Polar, Activio does not own their production facilities and thus lacks in-house production. Activio is therefore more dependent on suppliers than Polar and Suunto. According to Porter (2008) powerful suppliers are a threat to industries in terms of, higher costs, lower quality, and less service. However, Magnegård argues that the suppliers' power is modest. Moreover knowledge can be copied by suppliers. Activio's heart rate monitors have been developed by Activio and professors. Thus, suppliers are not involved in the development. Further, Polar and Suunto have larger possibilities to capture technological spillover than Activio, due to in-house production. Garmin has used such technology spillover, to gain a competitive advantage via their knowledge regarding GPS. The suppliers' power can therefore be considered high in relation to Activio's main competitors. The industry has relatively high marginal costs and switching among competitors, according to Cardinale is relatively hard due to the external components for a specific heart rate monitor cannot be used with others. Thus, the companies try to lock in the customers (Cardinale).

4.2.1.4. Buyers' bargain power

There are indications of a price battle in the fitness center segment. Lundström claims that there is a price difference between Activio's and Suunto's systems. Ivardsson points, Suunto offered GIH a very beneficial deal. In addition, Magnegård claims that Activio has the cheapest products considering the overall investment. Thus, the beneficial price to GIH and Planet Fitness can either be a penetration strategy or a low-cost strategy, either way the buyers benefit from it. However, Activio's dominant position indicates that the bargain power is low in the indoor segment. According to Porter (2008), industries with volume buyers have a larger chance of decreasing of the price. However, buyer's negotiation ability increases when an industry is price sensitive. Further, Activio controls the market and thus the situation is most particular complex due to the very high standard of Activios' products (Magnegård). Moreover, if the rivalry increases in the indoor segment, bargain power of buyers will increase due to a greater number of products to choose between.

The larger firms distribute their products via; sports stores, online retailers, and fitness companies. Many of these companies can be considered volume buyers. Furthermore, there are a lot of brands to choose between in the outdoor segments, so consumers have a lot of different brands to choose between. This indicates that the bargain power in the outdoor segment is relatively high.

4.2.1.5. Substitutions

There are substitutions to heart rate monitors, e.g. measurement of lactate. However the technique and procedure of the testing and analyzing are complex and time consuming (Nilson, 2008). Also, EKG can be used to determine a person's fitness ability. The EKG is a downstream product and thus should be considered a substitution (Porter, 2008). Ivardsson and Cardinale mentioned the Borg-Scale as a substitute. The Borg-Scale is a method used where a person measures the pulse in correlation to a scale from 6 to 20. It requires deeper knowledge of your physical health than a heart rate monitor where you just need to know your standard heart rate. Moreover the Borg-Scale method can be considered subjective. Thus, in both the indoor and outdoor segment, the threats of substitution could be considered low. Lundström claims, that oxygen masks are a substitution in the indoor segment. However oxygen masks are only used by professional athletes or persons really into training.

Ivardsson argues that one of the major drawbacks which the heart rate monitors is the precision of the results. All athletes do not want to know their values at all the time. He argues that persons can be distracted by the constant measurement and thus just feel like go out and run. However, Ivardsson claims that there are no devices that can give feedback in an easier way than heart rate monitors.

4.2.2. Analysis of the indoor and outdoor condition

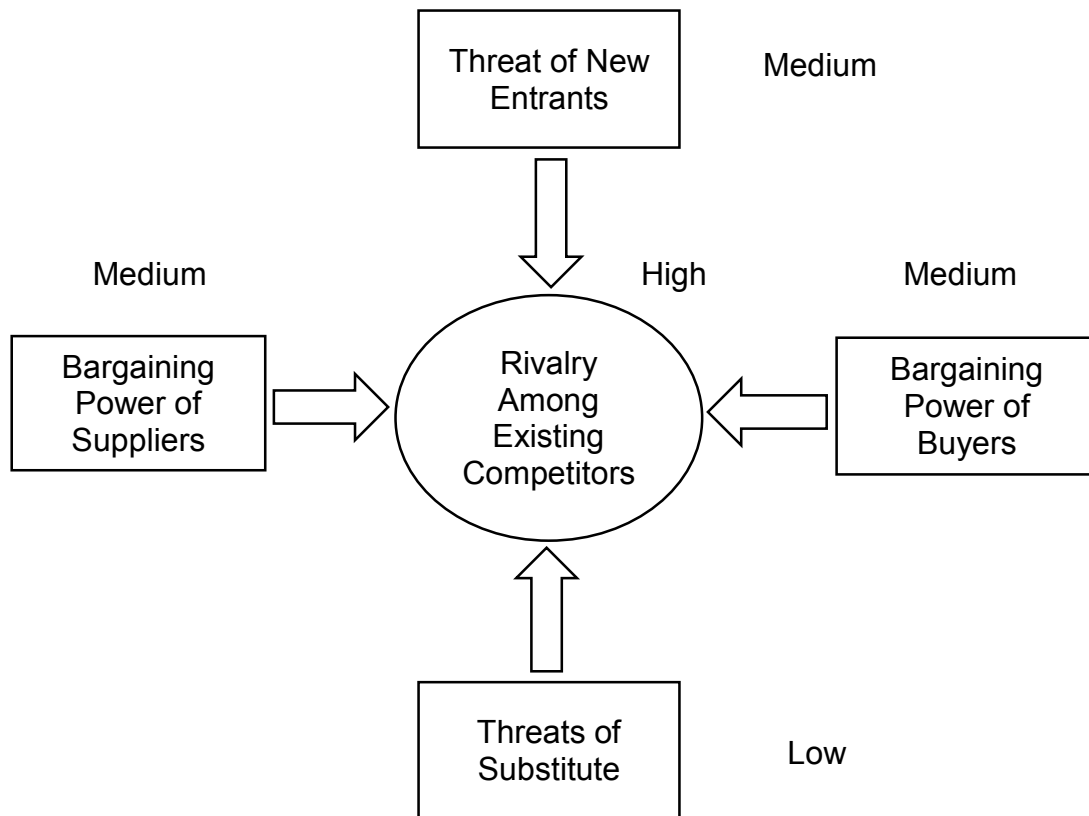


Figure 8, Five forces model applied on the outdoor segment.

The figure above presents Porter's five forces model based on the empirical gathering of the outdoor segment incumbent situation.

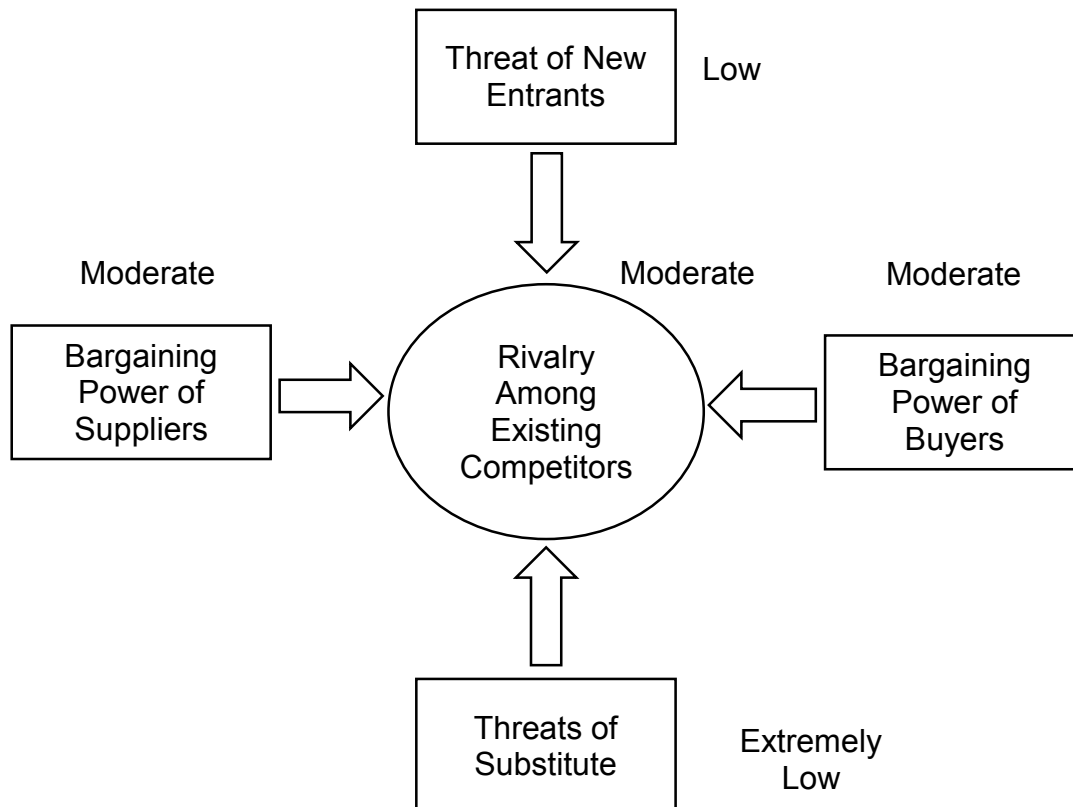


Figure 9, Porter's five forces model applied on the indoor segment.

Figure 9, shows the indoor segment incumbent conditions via Porter's five forces. However, the analysis will not be accurate in the near future due to the entrance of Suunto and Polar.

4.3. Internal Analysis

Resource based theory is a part of the strategy framework (see section 2). Thus the following section presents Activio's major resources and capabilities. A top down approach was used, in accordance with Bourne et al. (2003). Thus the resources and capabilities were audited through interviews with Magnegård.

4.3.1. Resources

Activio has hardly any tangible resources, however they possess great intangible resources (Magnegård). Thus, Activio's incumbent strengths are their management, knowledge and coordination abilities. Activio has developed an outstanding product due to their human capital and their partners. Activio can be considered more of a sales/knowledge organization than a manufacture and product development organization. Polar and Suunto uses pilot facilities in order to develop their product and entering the mass market. Thus, if Activio would launch for instance a heart rate monitor in the outdoor segment, the proper way would be to use their already established distribution channels, the fitness centers. The lack of tangible resources can cause production problems. Polar and Suunto have their own factories (Magnegård) and thus have a higher amount of physical resources. Thus, Activio's contact with their suppliers and maintains of their coordination ability is crucial.

4.3.2. Capabilities

Activio's day-to-day operations as well as their resources are well organized. Newbert et al. (2008) argues that capabilities are the intangible process. According to Videhall, Kompassen has a good relation with Activio. Also Ivardsson and Cardinale have good experience with Activio and good relationship. Activio are not able to developing and produce new products in the same pace as Polar and Suunto. However, they are emphasizes on their relations with clients rather than exploring new markets. According to Cravens et al. (1997), capabilities may exist in the firm's ability to maintain and form customer relationship, manufacture and distributing products and develop new products, which is one of Activio's core abilities. The core function of the business could be analyzed as selling and relations with customers and future customers. Moreover, benchmarking Suunto by selling heart rate monitors via fitness centers would strengthen both their relations with their clients, and further strengthen the brand Activio.

4.4. Customer value

As a part of the framework, the customer value, via the concept of business model, is the bridge between the internal analysis and the external analysis. Thus, the result of the semi-structured questionnaires is presented in this section. The result will indicate what customers want and need in their heart rate monitor. Therefore, a strategy be formed using this sections result as a brew between the internal and external analysis.

The empirical data shows two major sub-groups within the private segment (see section 6.3). The first group is willing to pay no more than SEK 1 000, the second group is willing to pay above SEK 2 000, for a heart rate monitor. There is a lack of potential customers in between the two groups and therefore a firm targeting neither segment can be *stuck in the middle*, according to Porter (1979) (see section 5.4). Lundström confirms that there are the two types of groups, "normal exerciser" and hard core athletes which are persons who aim for the very best. Activio's consumers consider number of functions the third most important aspect in their choices of monitor. As a consequence, many heart rate monitors are filled with features. Ivardsson points, heart rate monitors in the premium segment have a myriad of unnecessary features, even for professional athletes.

The respondents of the questionnaire spent a greater time training indoor than outdoor, which is not surprising due to that the questionnaire were passed out in three spinning-classes. However, the respondents who had a personal heart rate monitor were using the fitness centers hence Activio's heart rate monitors to a larger extent than their personal. Also, Activio's clients do not have the opportunity to use their own heart rate monitors at spinning classes and thus no clients that uses their own heart rate monitor.

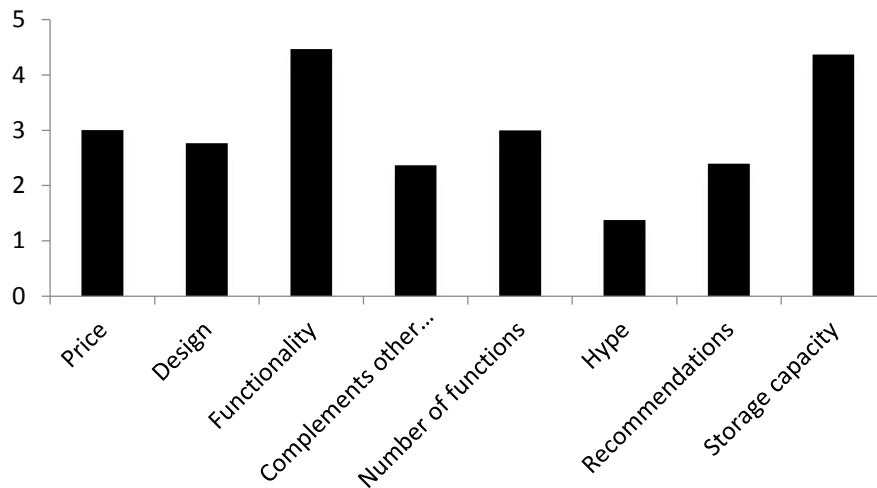


Chart 1, Activio's clients buying behavior.

The chart above represents the buying behavior of Activio's clients on a scale from 1 to 5. Storage capacity and functionality are the highest scoring factors, followed by price and number of functions. It is a paradox that clients aim for high storage capacity and multiple functions while functionality is the second highest scoring factor. According to Rosén, a heart rate monitor's functionality often decreases along with increased number of functions, due to increased complexity and decreased user friendliness. Furthermore, the second highest factor was memory function however the results from questionnaires expose that only 26 percent of the respondents are analyzing their data. Thus, the high amount of features might be an attempt to convince customers of high quality or justify a high price, nevertheless price was the third most important factor along with number of functions. This was further shown by the willingness to pay (see section 6.3). The majority of Activio's customers' are not interested in the premium segment.

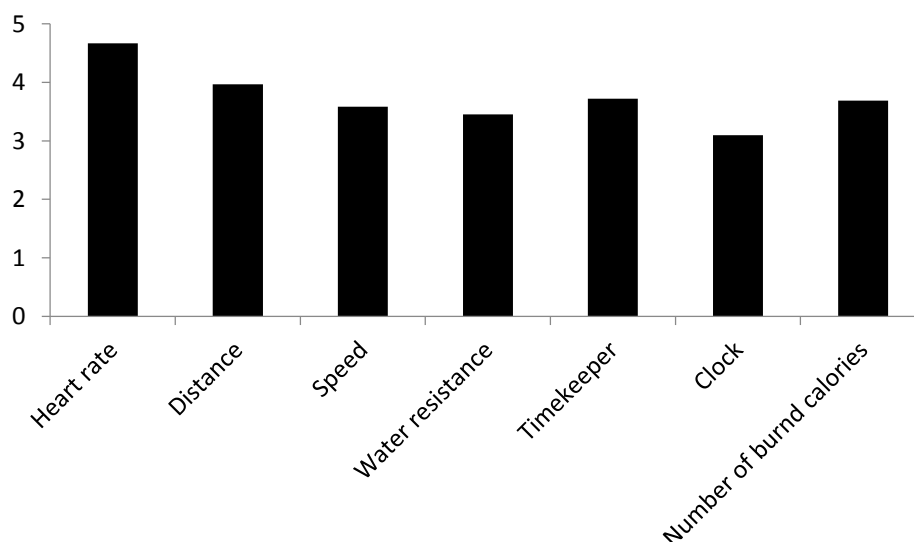


Chart 2, the importance of different features among Activio's clients.

Chart 2 presents the importance of the different features of a heart rate monitor among the respondents of the questionnaire. Not surprisingly, water resistant is the second lowest scoring factor. Activio's consumers do seldom exercise outdoor and thus are not in a greater need of a water resistant function. Cardinale states that Activio's strongest segment is the fitness segment. The questionnaire shows that Activio's customers are not willing to pay high amount for their heart rate monitors. According to the result of the questionnaire, males are underrepresented in spinning classes and thus systems targeting other sessions and areas in the fitness centers can lead so a great success. However, according to Lundström, Suunto's comprehensive system has received diversified feedback from Planet Fitness non-class participants. Nevertheless in general, customers are more interested in what they already know than what is new (Darling, 2001). Even though only the heart rate monitor's number is utilized on the projector-screen, clients might reject classes in order to avoid being exposed (Lundström, Rosén). As a consequence, Polar's clients are able to use their private Polar heart rate monitors in the spinning classes. Rosén believes that this might be an upcoming segment with great potential. Moreover, Suunto has already exploited the potential in the new segment via providing heart rate monitors at Planet Fitness with member discounts. Feedback solution were highly desired by Activio's clients, however the willingness to pay were diversified. Thus, a feedback solution has the ability to become a success however there is a question whether it is profitable.

Activio's clients desired a feedback system involving analysis of the heart rate data by personal trainer. 71 percent of the clients' who used a personal trainer consider using such service. However, the willingness to pay was low. Only 20 percent would pay SEK 30 or more each month. Thus the majority valued the service however were not willing to pay large amounts for it. However, due to the constant change of trends in fitness industry (Rosén) the response should not be exaggerated, a feedback service could be the next trend in the fitness industry.

5. DISCUSSION

The following section will discuss the empirical data presented from the previous section.

There is a discussion whether strategy is formed via positioning activities or resources and capabilities. The advantage of form a strategy based positioning activities is that new business areas within the industry could be visualized. If a firm's resources and capabilities do not match the firm's positioning the strategy could turn out disastrous. However, if a firm finds a match between their resources and capabilities with a favorable positioning, a successful strategy could easily be formed. Business model focus on value creation and include both internal and external aspects. Thus, it can easily be mistaken for strategy. However, as argued in section 3.1. strategy is a structured way to achieve predetermined goals. While Business models are the template for achieving those goals, through value creation. A successful created business model represents a better way of doing business than the existing alternatives.

The developed framework takes both internal and external views into consideration. In this case Business model works as a bridge between the two views. The framework can be applied on a firm in a new market. However, the framework is neither tested on a mature market nor on a specific product. Thus, the framework effectiveness for strategy development on product level has to be further examined. Moreover, Activio is a small company and thus frameworks usefulness on larger diversified companies is not verified. Nevertheless, the framework works properly on small companies in rapid growing market.

The outdoor segment consists of a high number of actors. While the indoor segment consists of one dominate actor, Activio, and two emerging actors, Polar and Suunto. The differences between the segments could be due to the technology differences between the segments. There are facts that Suunto and Polar had minor difficulties with their indoor systems. However, the technology differences are not that significant in comparison to the rivalry within the two segments. The industry emerges from the outdoor segment and thus the outdoor segment has come further in their industry life-cycle (Magnegård) which could also have an impact on the differences. There is perhaps not one factor, which explains the differences between the segments but several. A consequence of not come as far in the industry life cycle, the indoor segment should have additional opportunities (Porter, 2008).

Polar and Suunto, could benefit from the indoor segment's early phase by targeting new segments and by their strong position in the outdoor segment, e.g. synchronization of outdoor heart rate monitor with indoor systems or targeting broader spectrum of classes. The questionnaire shows a possible expansion of the indoor segment e.g. services as a feedback solution, heart rate detectors in the entire fitness center, and integrating personal trainers. However, the willingness to pay for the additional services among Activio's clients was low and the response on Suunto's total detector coverage was diversified. Customers are in general more attracted of what is recognizable than what is new (Darling, 2001), as a consequence, the willingness to pay for incumbent services is most likely higher. Therefore, the success of entering new segments is not certain. New segments could perhaps not be as profitable as the current segments. However, an expansion of Activio's incumbent system, involving a greater part of the fitness centers, can strengthen Activio's position in the indoor segment via strengthened relationship with fitness firms. Thus, Activio might not profit from an expansion in a short run but in the long run it is vital due to the constant change of barriers in young industries.

In order to reach a broader mass, Suunto offers Planet Fitness customers heart rate monitors with price discounts (Lundström). Activio cannot involve their partners in such partnership due to lack of heart rate monitors in the Private segment. Also, even though SATS Kompassen has Activio's system, the heart rate monitors provided for private use are provided by Polar (Videhall). Thus, Activio can lose potential income if not entering the Private segment and moreover miss the opportunity to strengthen their partnership with their already established partners or even lose them. However, they could develop a heart rate monitor to complement their system, they need to incorporate knowledge of such product development. Nevertheless, the technology in private heart rate monitors' are less advanced than in the fitness systems (Magnegård). However, even though Activio has a technological advantage in the indoor segment the conditions between the segments differ. Polar and Suunto can draw benefits from their learning curve. Thus, the incumbent actors have a head start in the private segment. In addition, another drawback in developing a heart rate monitor for private use would be the strong position of Suunto and Polar in this segment high rivalry. However, the production can be considered essential in order to target new segments in fitness segment.

Polar and Suunto have their focus on the outdoor segment, and thus they might not consider Activio as their main rival. However, as a result of Polar's and Suunto's entrance in the indoor segment, Activio is likely to be considered more vital competitors. Moreover, Suunto and Polar are not only targeting new segments they differencing themselves by adding services. The choice for the potential buyers might not be based upon the performance rather than the capabilities of different systems. The indoor market consists of few numbers of potential customers thus the relationships with these potential customers are crucial. Polar and Suunto ought to consider Garmin a bigger rival and threat. Due to Garmin's position is in Polar's and Suunto's core segment, the outdoor segment. However, Cardinale states that Activio is the main actor within the indoor segment and thus the competition between Activio, Suunto and Polar will increase. As the competition between the three actors will increase and Suunto and Polar will reevaluate the competition of Activio. However, if Activio enter the outdoor segment and Suunto and Polar continuing exploiting the indoor segment, Suunto and Polar ought to see Activio as a greater rival than Garmin.

Suunto and Polar could benefit from a second mover advantage in the indoor segment via utilizing flaws in Activio's system. Nevertheless, the benefit of a second mover advantage in the indoor segment could be argued, due to Activio's already established partnerships with the larger fitness firms in Sweden. The switching cost in the indoor segment is relatively high due to the large investments from the fitness center in a heart rate monitor system. Therefore Suunto and Polar will have a hard time to seize Activio's incumbent customers in a near future. The bargain power among buyers ought to be higher in the indoor segment than the outdoor segment, due to the fact that it is harder to switch system than an individual heart rate monitor. However, Cardinale claims that the switching costs between brands in the Private segment has increased due to look-ins' via complementary products. In spite of this, even though the entrance of Polar and Suunto becomes a failure in terms of product performance and market share, fitness centers still have more actors to choose from and thus better chances to bargain.

Magnegård claims that Activio is the least expensive brand in the indoor segment, considering the overall investment. Nevertheless, Chatrine and Ivardson argue, Suunto's system is less expensive than Activio. However, Suunto offered GHI and Planet Fitness very good deals. Also, GHI can be considered key customers due to their students' possible future careers

within the fitness industry. Hence, Suunto aims to penetrate the market by offering low prices key actors while still develop their products. Moreover, Rosén states, Balace Training can be considered a pilot facility for Polar, and thus Polar's future steps are uncertain. Activio, could benefit from a differentiate strategy. The main reason to practice a differentiation strategy is to Activio avoid a price-war with the larger actors. However, Sweden's fitness center industry can be considered homogenous thus a differentiation strategy could be complicated to fulfill. The industry is also very trend sensitive, thus to focus on a specific segment of the industry could be very dangerous in the long run. Moreover, the result of the questionnaire show that price is a large factor which is greatly taken into consideration in customers' choice of heart rate monitor. The willingness to pay among Activio's clients is not linear, instead, two groups are found. The first group is willing to pay maximum SEK 1 000, and second groups is willing to pay above SEK 2 000. The largest group was willing to pay between SEK 500 and SEK 1 000 for a heart rate monitor. Lundström defines the two groups as, "normal exerciser" and hard core athletes which are persons who aim for the very best. Thus, a firm position in between these two groups has a potential risk of becoming stuck in the middle, which amplify the potential risk of lose substantial revenue. The fact that Activio already can deliver a system to a benefit price and the fact that the majority of Activio's clients are price sensitive makes a low cost focus more reasonable strategy than a differentiation strategy for Activio.

6. CONCLUSION

Strategy can be formed in various ways. As discussed in section 2, a firm's strategy usually emerges from external analysis or internal analysis. However, a strategy's outcome could differ depending on whether the data is analyzed through external or internal analysis. Thus, neither the external nor the internal perspective should be neglected. The two perspectives are cornerstones in the strategy formation. The concept of business model is favorable to use in order to match the internal and external factors. A well written business model does include both internal and external aspects. Therefore, the outcomes of internal analysis and external analysis could be taken into consideration in the use of a business model. However, a business model should not be mistaken for strategy. A business model is a template including internal and external environment where strategy could materialize form.

The heart rate monitor industry can be divided into two major segments, indoor and outdoor. The condition between the two segments differs due to they are in different industry's lifecycle phases and there are technological differences between the two segments. Thus, the entry barriers are significantly higher in the indoor segments than in the outdoor mainly due to a more complex technology. Polar was a pioneer in the outdoor segment and has been present in the segment for over 30 years (Magnetgård). Thus, the dimensions of the outdoor segment are set. However, the indoor segment is a relatively young segment in Sweden with Activio as the pioneer and dominant actor. The weakness of the rivalry firms and the current focus on spinning classes indicates that the segment has lot of potential for new entrance. This is utilized by Suunto's and Polar's targeting non-class participants. An industry's profitability decreases by increased rivalry and vis-à-vis (Porter, 2008). The entrance of Polar and Suunto in the indoor segment will increase the rivalry and thus affect Activio's profitability. In order to meet the increased competition, an entrance in the outdoor segment would have positive synergy effects in terms of strengthened position in the indoor segment. Even though Activio's central aim is not to compete in the outdoor segment. Moreover, Suunto's system can be used throughout the entire fitness center. However, the response from Planet Fitness customers has been moderate. According to Darling (2001), customers in general attracts more of what is recognizable than what is new. Thus a lack of immediate success does not prevent a gradual long term success. Also, Polar provides a mobile detector which can be used in more areas and in more sessions. Even if the response has been mediocre the segment has a lot of potential due to the fact that.

Activio's resources do not entitle a production of heart rate monitors to the private segment in the same pace as Suunto and Polar. Therefore, it is necessary to provide a heart rate monitor which can function as a complement to Activio's fitness system. Newbert et al. (2008) argues, firms' that do not possess these resources can diversify themselves to other markets and thus stay competitive without competitive resources, instead of going into a performance race. Activio should focus on a heart rate monitors which are compatible with their system in order to benefit for their strong relation Sweden's larger fitness firms. Thus, Activio should focus on the broader mass. However their main focus should still be in their core segment, the indoor segment. In order to further develop their system to be involved in more classes in the fitness centers in order to meet the competition from Suunto and Polar. The clients of Activio's heart rate monitor system aims for a heart rate monitor with basic function such as detecting heart rate and distance. Moreover, Ivardsson argues, that a heart rate monitor should consists of three different functions, heart rate, maximum heart rate, and medium heart rate, and moreover that many more advanced heart rate monitors have become complex due to high number of functions and thus none user friendly.

A secondary purpose was to test the framework and form a strategy for Activio. The developed strategy which has been discussed in section 5 is summarized below.

- Focus on Activio's core segment, the indoor segment.
- Benefit from their know-how.
- Enter the outdoor segment.
- Use the competitive advantage of the indoor segment to penetrate the outdoor segment with a product that can be used in both segments.
- Create synergy effect between the two segments.
- Target customer with a willingness to pay between SEK 500 and SEK 1000.

SOURCES

Written Sources

Amit, R., Zott, C. (2001) 'Value creation in e-business', *Strategic Management Journal*, vol. 22, no. 6-7. pp. 493-520.

Andersén, J. (2010) 'Resource-based competitiveness: managerial implications of the resource-based view', *Viewpoint*, vol. 26, no. 5 2010, pp. 3-5,

Andersen, O. & Kheam, L. S. (1998) 'Resource-based theory and international growth strategies: an exploratory study', *International Business Review*, vol. 7, pp. 163- 184.

Arora, R. (2006) 'Product positioning based on search, experience and credence attributes using conjoint analysis', *Journal of Product & Brand Management*, vol. 15, no. 5, pp. 285–292.

Barney, J. (1991) 'Firm resources and Sustainable Competitive advantage', *Journal of Management*, vol. 17, no. 1, pp. 99-120.

Bergman, B. & Klefsjö, B. (2001) *Kvalitet från behov till användning*, Lund: Studentlitteratur.

Blankson, C., Tsogas, M. & Kalafatis, S. (2000) 'Positioning Strategies in Business markets', *Journal of Business and Industrial Marketing*, vol. 15, no. 6, pp. 416-437.

Blankson, C. & Kalafatis, S. (2007) 'Positioning strategies of international and multicultural-oriented service brands', *Journal of Services Marketing*, vol. 21, no. 6, pp. 435 – 450.

Bourne, M., Mills, J. & Platts, K. (2003) 'Applying resource-based theory: Methods, Outcome and Utility for managers', *International Journal of Operations & Production Management*, vol. 23, no. 2, pp. 148-166.

Bogdan, R. C. & Biklen, S. K. (2007) *Qualitative research for education: An introduction to theories and methods*, 5th ed. Boston: Allyn and Bacon.

Bowman, C. & Carter, S. (1995) 'Organizing for competitive Advantage', *European Management Journal*, vol. 13, no. 4, pp. 423 - 433.

Bredenlöv, T. & Zineldin, M. (2001) 'Performance measuring and management control positioning strategies, quality and productivity: a case study of a Swedish bank', *Management Journal*, vol. 16, no. 9, pp. 484-499.

Cepeda, G. & Martin, D. (2005) 'A review of case studies publishing in Management Decision: Guides and criteria for achieving quality in qualitative research', *Management Decision*, vol. 43, no. 6, pp. 851 – 876.

Crabtree, B. & DiCicco-Bloom, B. (2006) 'The qualitative research interview', *Medical Education*, vol. 40, no. 4, pp. 314-321.

Cravens, D., Greenley, G., Piercy, N. & Slater, S. (1997) 'Integrating Contemporary Strategic Management Perspective', *Long Range Planning*, vol. 30, issue. 4, pp. 474, 493-506.

Darling, J. (2001) 'Successful competitive positioning: the key for entry into the European consumer market', *European Business Review*, vol. 13, no. 4, pp. 209±220.

Dibb, S. & Simkin, L. (1991) 'Targeting, Segments and Positioning, International', *Journal of Retail & Distribution Management*, vol. 19, no. 3, pp. 4-10.

Dorf, R. & Byers, T. (2008) *Technology Ventures: From Idea to Enterprise*, Second Edition, New York: McGraw-Hill.

Enders, J. & de Weert E. (2009) *The Changing Face of Academic Life: Analytical and Comparative Perspectives*, Houndsmill, Basingstoke: Palgrave.

Fenterseifer, J. & Wilk, E. (2003) 'Use of resource-based view in industrial cluster strategic analysis', *International Journal of Operations & Production Management*, vol. 23 no. 9, pp. 995-1009.

Fuchs, M. (2009) 'Optimal governance of research support by Survey Methodology', *German Counsel of Social and Economic Data (RatSED)*, July.

Grant, R. (1991) 'The Resource-Based Theory of Competitive Advantage: Implication for Strategy Formulation', *California Management Review*; Spring (33)3.

Hassan, S. & Craft, S. (2005) 'Linking global segmentation decisions with strategic positioning options', *Journal of Consumer Marketing*, vol. 22, no.2, pp. 81–89.

Heene, A. (1997) 'The Nature of Strategic Management', *Long Range Planning*

Hutchinson, T. (2010) 'Marketing Concepts and Definitions: record label marketing', Elsevier. Inc. (Science Direct).

Kim, J. & Mahoney, J.T. (2005) 'Property rights theory, transaction costs theory, and agency theory: An organizational economics approach to strategic management'. *Managerial and Decision Economics*,

Knott, P. (2009) 'Integrating resource-based theory in a practice-relevant form', *Journal of Strategy and Management*, vol. 2, no. 2, pp. 163-174.

Kuo-liang, L. & Shu-chen, (2007) 'A fuzzy quantified SWOT procedure for environmental evaluation of an international distribution center', Elsevier Inc. (Science Direct)

Long, T. & Johnson, M. (2000) 'Rigor, reliability and validity in qualitative research', *Clinical Effectiveness in Nursing*, no. 4, pp. 30-37.

Luning, P., van Trijp, H. & van Kleef, E. (2006) 'Internal versus external preferences analysis: An exploratory study on end-user evaluation', *Food Quality and Preferences*, vol. 17, pp. 387-399.

- Ma, H. (2003) 'To win without fighting; an integrated framework' *Department of Management, Bryant College, Smithfield, Rhode Island, USA* 2003. pp. 72-84.
- Ma, H. (1999) 'Creation and preemption for competitive advantage' *Department of Management, Bryant College, Smithfield, Rhode Island, USA Management Decision* 37/3 [1999] 259±266
- Magretta, J. (2002) 'Why business models matter', *Harvard Business Review*, May. pp. 86-92.
- Millar, Whitney (1999) 'Beyond Strategy: Configuration as a Pillar of Competitive Advantage', *Business Horizon*.
- Mintzberg, H. (1978) 'Patterns in Strategy Formation', *Management Science*, vol. 24, no. 9, pp. 934-948.
- Newbert, S., Gopalakrishna, S. & Kirchhoff, B. (2007) 'Looking beyond resources: Exploring the importance of entrepreneurship to a firm-level competitive advantage in technologically intensive industries', *Technovation* 28 (2008)
- Newman, I. & Benz, C. (1998) 'Qualitative-Quantitative Research Methodology: Exploring the Interactive Continuum', *Southern Illinois University Press*,
- Nilsson, J. (1998) 'Puls- och laktatbaserad träning', *SISU Idrottsböcker*.
- Ostenwalder, A., Pigneur, Y. & Tucci C.L. (2005) 'Clarifying Business Models: Origins, Present, and Future of the Concept', *Communications of AIS*, vol. 15, Article May.
- Piasano, G. & Teece, D. (2007) 'How to Capture Value from Innovation: Shaping Intellectual Property and Industry Architecture', *California Management Review*, vol. 50, no. 1.
- Porter, M. (2008) 'The Five Competitive Forces that shapes Strategy', *Harvard Business review*, January.
- Porter, M. (1980) *Competitive Strategy*, New York: Free Press.
- Porter, M. (1985) *Competitive Advantage*, New York: Free Press.
- Porter, M. (1973) 'How Competitive Forces Shape Strategy', *Harvard Business Review*. March/April 1973.
- Rothaermel (2008) Technological Innovation: Generating Economic Results Advances in the Study of Entrepreneurship, Innovation and Economic Growth, vol. 18, pp. 201–225.
- Rhyne, L. & Teagarden, M. (1995) 'International Technology-based competitive Strategy: A Literature Review and Integrative Model', *The Journal of High Technology Management Research*, vol. 6, no. 2, pp. 157-178.

Scandura, T. A. & Williams, E. A. (2000) 'Research methodology in management: Current practices, trends, and implications for future research'. *Academy of Management Journal*, vol. 43, pp. 1248–1264.

Torst, J. (2005) *Kvantitativa Intervjuer*, Lund: Studentlitteratur

Turner, D. W. (2010) 'Qualitative Interview Design- A Practical Guide for Novice Investigators'. *The Qualitative Report*, vol. 15, no. 3.

Weidong, S. (2007) 'Gaining Economic Competitive Advantage in Poor Countries Based on Resource-based Theory', *Online English Edition of Chinese language journal*, vol. 17, issue 4.

Interviews

Daniele Cardinale, Bosön Academy, Lidingö Sweden, October 14, 2010

Alexander Ivardsson, GHI, Stockholm, Sweden, October 16, 2010

Anne Rosén, Balace Training, Stockholm, Sweden, November 15, 2010

Christina Lundbäck, Planet Fitness, Stockholm, Sweden, October 20, 2010

Anna Videhall, SATS Kompassen, Gothenburg, Sweden, December 10, 2010

APPENDIX 1.

Questionnaire Clients

1. What is your age?

.....

2. Are you male/female?

Male female

3. How often do you workout?

- More than 3 times a week
- 2-3 times a week
- 1 time a week
- 2-3 times a month
- 1 time a month or less
- Never

4. How often do you workout in fitness centers?

- More than 3 times a week
- 2-3 times a week
- 1 time a week
- 2-3 times a month
- 1 time a month or less
- Never

5. How often do you workout outdoor?

- More than 3 times a week
- 2-3 times a week
- 1 time a week
- 2-3 times a month
- 1 time a month or less
- Never

6. Do you own a heart rate monitor?

Yes No

If **No** on question 6, please continue to question 14.

7. When did you purchase your heart rate monitor?

.....

8. Where did you purchase your heart rate monitor?

- Sports store
- Fitness center
- Internet
- Elsewhere

9. What was the reason behind your choice of heart rate monitor? Please mark the reason on a scale between 1 and 5. (1 = least important. 5 = most important)

- Price
- Design
- Functionality
- Externalities of the product (attachable with other products)
- Number of features
- Hype
- Recommendation from friends
- Storage capacity, e.g. utilizes data after training
- Other

10. Are you missing any function/service in your existing heart rate monitor? If so, which one/ones?

.....

11. What is the brand of your heart rate monitor?

- Activio
- Polar
- Suunto
- Garmin
- Timex
- Blowflex
- Reebok
- Cardio sport
- Oregon Scientific
- Nike
- Adidas
- Other

12. How often do you use Activio's heart rate monitor in indoor training?

- More than 3 times a week
- 2-3 time a week
- 2-4 times a month
- 1 time a month or less
- Never

13. How often do you use another heart rate monitor in indoor training?

- More than 3 times a week
- 2-3 time a week
- 2-4 times a month
- 1 time a month or less
- Never

14. How often do you use your heart rate monitor in outdoor training?

- More than 3 times a week
- 2-3 times a week
- 2-4 times a month
- 1 time a month or less
- Never

15. How much are you willing to pay for Activio's heart rate monitor?

- 0 SEK
- <500 SEK
- 500-1000 SEK
- 1000-1500 SEK
- 1500-2000 SEK
- 2000-3000 SEK
- >3000 SEK

16. What is your impression on Activio's heart rate monitor on a scale from 1 to 5, (5, is the highest)?

1 2 3 4 5

17. Have Activio increased your interest in training?

Yes No

18. Do you know somebody who has become a member of a Fitness center due to Activio's heart rate monitor system?

Yes No

19. Which features do you consider most important in a heart rate monitor? Please mark the importance on a scale between 1 and 5. (1 = least important. 5 =most important)

- Heart rate
- Distance
- Speed
- Water resistance
- Timer
- Clock
- Number of burned calories
- Other

20. At which price would you purchase a heart rate monitor?

- 0 €
- <50 €
- 50-100 €
- 100-150 €
- 150-200 €
- 200-300 €
- >300 €

21. Do you have a personal trainer?

Yes No

21a. If **Yes on question 21**, would you be interested in having your trainer analyzing the data from a heart rate monitor?

Yes No

21b. If **No on question 21**, would you consider a personal trainer if such service existed?

Yes No

22. Do you evaluate the data from your monitor with any feedback solution?

Yes No

23. If **No on question 22**, are you interested in following your results through such a service?

Yes No

24. What extra would you be willing to pay per month if a heart rate monitor and a feedback solution were included in your fitness card.

- 0
- <3€
- >3€

Thank you for filling out our questionnaire!

APPENDIX 2.

Questionnaire Instructors

Introduction

What is your name?

How old are you?

Where do you work, (name of fitness center)?

What is your profession, instructor/ personal trainer/ administrator?

How long have you had that title?

What did you do before you begun working at a fitness center?

Private Heart rate monitors

Do you use any heart rate monitor?

If so, what brand do you use?

What is the reason behind the choice of your heart rate monitor?

How often do you use heart rate monitors?

Which feature do you consider most important?

Which features do you consider least important?

Are you missing any particular features?

What is the main benefit/drawback with your heart rate monitor?

Where do you use your heart rate monitor, in outdoor or indoor training?

Feedback service

Do you use any feedback solution?

Which one do you use?

What is the main benefit/drawback with that service?

How often do you use it?

Fitness centers

Heart rate monitors

Does your fitness center use any heart rate monitors?

When are they used?

Which brand do you use?

Why do you use that brand?

If so which one do you use?

What is the main benefit/drawback of your heart rate monitor?

What do you consider most important in the purchasing procedure price/ features/ service of the heart rate monitors?

What do you consider most beneficial with a heart rate monitor?

How long have you used heart rate monitors?

Why do you use that brand?

In which way do you believe

Feedback solution

Does your fitness center use any feedback solution?

Which one?

What is the main benefit/drawback with such a service?

What is the main benefit of having a feedback solution?

If you are not using a feedback solution, why?

Do you feel such service would benefit your ability to coach clients?

APPENDIX 3.

Questionnaire Directors

1. Name
2. Occupation
3. Background
4. Which are the leading heart rate brands in Sweden?
5. How would you rate the different brands in terms of performance? Please rank them on a scale from 1 to 5.
 - Activio
 - Polar
 - Suunto
 - Cardio sport
6. What do you consider the strength and weaknesses of the different brands?
7. Which brand would you consider market leader?
8. How do the different brands target their customers? Do they have different strategies?
9. How would you consider the further for the heart rate industries? Is the industry growing or declining? And how much?
10. What would you consider the next step for heart rate monitor industry in order to evolve?
11. What would you consider the biggest threat to the industry?
12. Which are the largest segments in the heart rate monitor industry? Private persons, fitness centers, other?
13. What would you estimate each of these markets be worth?

14. In which way are heart rate monitor helping people to become fitter? E.g. increasing motivation/Keeping track of health.
15. Which feedback systems would you consider the leading one? Please rank them from a scale from 1 to 5.
- Suunto
 - Polar
 - Activio
 - Other?
16. What is the main benefit/drawback with your heart rate monitor?
17. Are there any substitution to heart rate monitors, if so which one/ones?
18. Do you see any threat to the industry in the future?
19. Do you see any upcoming market for the industry? (market opportunity)
20. How would you consider the rivalry within the industry? Is it a strong competition and further.
21. In terms of performance are the different brand useful in different situation, if so which situations?
22. Is there any brand that gives more performance per dollar?
23. What are the different strength/weaknesses of the different brand?