



# **The Effect of Market Orientation on Business Performance**

**An Empirical Study of Moderating and Mediating Factors in the Pharmaceutical  
Industry**

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## Preface

Four months ago, we began to think about the topic of our master thesis and came to the conclusion that we both have the aspiration of developing a deeper understanding of market orientation in the pharmaceutical industry. After months of intense study periods and investigations in this research area, we accomplished to finish the work on our master thesis and are ready to present our results.

However, in this first paragraph, we would like to acknowledge the contribution and help of several people, without whom it would have been difficult to complete this project. First of all, we would like to thank our two expert interviewees, who added insights and critical viewpoints of the current state of the pharmaceutical industry.

Moreover, we would like to thank Brian Brost and Suzanne Elisabeth Helwigh for their great efforts in proofreading and commenting during the process of writing the thesis. It was a great help for us, in terms of saving time and ensuring the quality of the analytical content of the paper.

Third, we would like to thank Niels and Gitte Pedersen. Their support and hospitality during our one weeklong workshop at their home has had a significant impact on the successful and undisturbed data collection process, substantially helping us finish this thesis.

Finally, we owe special thanks to our highly competent supervisor, Dr. Wolfgang Sofka for his guidance, constructive feedback and discussions. His input in multiple feedback rounds has greatly contributed to the successful completion of this project.

It has been an amazing journey writing this thesis and we genuinely hope you will enjoy reading it.

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## Abstract

In today's business world, technological advances have enabled customers to be more informed about their product and service choices. Companies therefore place greater importance on considering customer needs and adjusting their business decisions towards the individual customer. A strategic orientation that centers around the idea of creating superior business performance by means of putting the customer first is market orientation. Market orientation has been argued to drive business performance, because it effectively incorporates current and latent needs of the customers, the internal company dynamics and external market factors.

Empirical evidence for the concept has however only been found in later years; still resulting in mixed findings in terms of the link between market orientation and business performance. This thesis therefore concerns with studying two models that 1) explore the market orientation and objective business performance link including three proposed moderating environmental factors, and 2) consider the role of the proposed mediating factor of innovation and three moderating environmental factors. The models are tested within the pharmaceutical industry, by utilizing the current industry trend of shifting attention from payers to patients. By conducting a content analysis of the letters of shareholder of the past five years of publicly listed pharmaceutical companies in developed countries, the two proposed models are empirically investigated.

The findings indicate that market orientation positively impacts business performance outcomes. However, the results do not support the moderating effects of the environmental factors on the market orientation and objective business performance link. In terms of the second model, no evidence could be found for the mediating role of innovation. Market orientation therefore does not directly impact innovation and innovation effects further do not influence business performance measures. The outcomes however indicate a significant positive influence of the moderating variables competitive intensity and technological turbulence on the relationship between market orientation and innovation. The results however indicate a negative influence instead of the proposed positive one. No evidence was found for the effect of market turbulence on the innovative performance of the companies.

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## Chapter 1 - Introduction

*“Consumer’s desire to be listened to and involved more directly in what a brand does and says means that now, more than ever, there is a great opportunity to market with consumers rather than at them”*

*Andrew Needham and Philip McNaughton (Face)*

It has become increasingly important to consider the consumer as an important part of the value chain in today’s competitive business environment. The consumer has evolved from being an inactive and responsive part to being an informed and active participant, who is able to shape the way companies do business. In many industries, for example the music and retail industry, these changes have already led to major changes in business and value chain models. As outlined in the above quote by Andrew Needham and Philip McNaughton from Face, it has therefore become crucial that consumer needs are taken into consideration when making business decisions.

In the academic literature, market oriented companies have been found to be able to create superior value for consumers and businesses (Noble, Sinha and Kumar, 2002; Morgan, Vorhies and Mason, 2009). The notion behind creating superior customer value is to obtain better performance outcomes compared to competitors. Hence, companies, which explicitly prioritize the needs and expectations of customers, are expected to outperform their competitors who do not follow a market orientation strategy.

One of the industries currently facing the challenge of consumers becoming a more active part of the value chain is the pharmaceutical industry. Technological development has made patients more knowledgeable, leading to the need to make changes in the business model of pharmaceutical companies. In recent years one could observe that they shifted their prime focus from prioritizing physicians to actively listening to the actual patients and end-users. This shift is an indication of the attempt to become more market oriented. It has not been proven yet whether the strategic changes actually have an impact on the business performance of pharmaceutical companies. Thus, there is a need to explore the relationship between the degree of market orientation and business performance outcomes in the pharmaceutical industry.

### 1.1. Motivation

The motivation for the topic area arose from a combination of two courses, namely the ‘Pharmaceutical Marketing’ and ‘Datafication – Foundations, Transformations and Challenges’. In the latter, we got an understanding about the changes that companies have to implement in order to please the informed, digital customer; in the former we were introduced to the specific challenge in the pharmaceutical industry of the changing customer needs in the 21<sup>st</sup> century. As patients become more knowledgeable and informed about medicine, they also become more powerful to influence the supply and demand of pharmaceutical companies. We therefore sought to investigate whether the change in focus from the physician to the patient is actually reflected in the product development outcomes of pharmaceutical companies.

The market orientation model has been found to show a clear link between the degree of market orientation of companies and their respective business outcomes. This link has further been found to be especially apparent in competitive industries, such as the pharmaceutical industry (Harris L. , 2001; Diamantopoulos & Hart, 1993; Bhuian, 1998). Hence, we believed that by using the model of market-orientation, we would be able to determine whether the degree of customer focus has an influence on the innovation and objective business performance of pharmaceutical companies. We further seek to investigate how certain factors affect the relationship between market orientation and business performance. By finding potential positive and negative factors, we are able to in the end advise companies in terms of strategic implications.

Hence, the motivation for this paper is twofold. First, the relevance of the topic has inspired us to explore this area to find early signs for possible links between the specific pharmaceutical industry changes and their respective business performance outcomes. Second, we believe that the outcomes of the study are going to help pharmaceutical companies to evaluate their current strategy and make changes based on our findings.

### 1.2 Purpose

The purpose of this thesis is first and foremost to investigate whether a market-oriented strategy has an influence on the business performance of pharmaceutical companies. We thereby seek to answer if it is possible to improve the performance by making their strategic choices dependent on their patients’ needs.



To the best of our knowledge, no research has previously studied the market orientation model in the context of only the pharmaceutical industry. We therefore also contribute to the academic literature, as we explore whether the correlation between market orientation and business performance also proves to be true for this specific industry setting.

In general, we strongly believe that the current changes in the pharmaceutical industry provide several interesting focus points for International Marketing and Management students to analyze. In light of both our motivation and the purpose of the study, we now proceed with our research question.

### 1.3 Research question

Our thesis is based on the existing theory on market orientation and business performance, as well as insights from innovation literature and background information on the pharmaceutical industry. To get an understanding of the effect of market orientation on business performance outcomes of pharmaceutical companies, our overarching research question reads as follows:

***Is there a relationship between the degree of market orientation and the business performance measures in the pharmaceutical industry?***

By answering this research question, we are able to make predictions about how a market oriented strategy is reflected in a company's business performance measures. As a result of limiting our research to the pharmaceutical industry, we further add explicit knowledge to the market orientation field.

In order to derive a conclusive answer to this question, we also aim to answer the following sub-questions in the course of the thesis:

- 1. Which conclusions can be found in the existing literature on the relationship between market orientation and business performance?*

Here, we first wish to analyze, which of the already existing relations have been found in this area in prior research studies. By considering this question, we are able to come up with first

implications and directions for our thesis and account for the various positive and negative outcomes for the hypothesized relationships.

*2. Can the market orientation – business performance relationship, which is established through the existing literature, also be found in the pharmaceutical industry?*

We are hereby interested in studying whether the theoretical findings in the current literature can also be supported in the pharmaceutical industry. This enables us to derive consequences for further research, as well as contribute to a more refined understanding of market orientation theory. Additionally, the theoretical results enable us to give practical implications for pharmaceutical companies at the end of the thesis.

In the following paragraphs, the approach of how we proceeded with the thesis is outlined in the philosophy of science.

#### 1.4 Philosophy of Science

Researchers have different perceptions of the world of science. These differences clearly affect the empirical analyses and the structures of research projects, hence it is important for the reader to have an understanding of the underlying assumptions of this thesis, in order to truly understand the purpose of the research. Specifically, this thesis follows a critical realistic philosophy.

First of all, the knowledge-constitutive interest of positivism and critical realism is technical. Further, the purpose is nomothetic in establishing general laws about the relationship through empirical-analysis, therefore a critical realistic approach aligns with the research question of this paper. Following the above research question the purpose of this paper is to investigate, if there is a causal relationship between a firm's market orientation and its success in terms of business performance outcomes. Hence, we want to only study whether market orientation affects business performance outcomes, and not how market orientation is understood per se or how meaning around the phenomenon is created. Nor are we going to investigate how the meaning affects the outcomes. Following a critical realism approach has several implications for the assumptions underlying this thesis, which in turn has implications on the research design.

Overall, critical realism is very much similar to the positivistic philosophy (Egholm, 2014; Bryman & Bell, 2011). Besides these two philosophies there are several other philosophies of science. Each philosophy has its own characteristics, however especially one dimension has been dominating the discussion; namely the distinction between a realistic and constructionist ontology (Egholm, 2014; Bryman & Bell, 2011). The positivistic and critical realism approaches are characterized by a realistic ontology. A realistic ontology is characterized by the assumption that the object under investigation and their relationships exist in the world independently of the researchers. Conversely, the constructivist ontology postulates that objectives can only be studied through our own meaning about the objects (Egholm, 2014; Bryman & Bell, 2011). This implies, that we as researchers have to identify the respective causal relationships, by following rigorous scientific methods.

Especially the methods and the generation of scientific knowledge are an important part of positivism and critical realism (Egholm, 2014). In the positivistic approach, the perception of science is the unity of science (Egholm, 2014). The unity of science claims that science is universal and the same method and procedures should be followed regardless of the actual phenomenon studied (Egholm, 2014). According to Egholm (2014), it is the common perception that a quantitative-oriented natural scientific methodology is the ideal within this approach. This unity of science affects the research design of the later case study of the pharmaceutical industry.

So far, the positivist and critical realistic approaches seem similar, however in regards to the perception validity and especially how to achieve it there is a clear difference between the two (Egholm, 2014). Common for the two approaches is the foundation on empirical studies (Egholm, 2014). It is a clear assumption that everything needs to be observed empirically, before it exists with scientific certainty. Hence, the validity of a scientific result is based on observable empirical data (Egholm, 2014). Opposed to common assumptions, the procedures for deriving at empirical conclusions are different. The positivist tradition follows an inductive standpoint implying a method of sense-based observations, which later has to be verified through analysis (Egholm, 2014). This means that the scientific claims are a posteriori, based on the made observations and later verified through analysis (Egholm, 2014).

The positivist approach has been met with criticism, where Karl Popper is among the most important critics (Egholm, 2014). One of the main arguments of Popper is, that it is impossible to

generalize from singular events (Egholm, 2014). As a part of his criticism Popper proposes a hypothetical-deductive approach, where logical hypotheses are derived a priori and tried falsified in the empirical analysis (Egholm, 2014). The concept of falsification hence implies that researchers must actively try to falsify the statements, in order to make the theory stronger (Egholm, 2014). It is based on the criticism of Karl Popper, that the foundation of this thesis and its methodology follows a critical realistic approach and hence a deductive standpoint as well as structure.

## 1.5 Thesis structure

In this introductory chapter the intention is to guide the reader of the thesis towards the main focus areas of interest. It has already provided an introduction to the problem area, followed by our motivation and the purpose of the thesis. This leads us to the development of the underlying research question. The main research question is further supported by two sub-questions in order to structure the analysis. Lastly, the introduction chapter discussed the philosophy of science underlying the structure of the thesis. In general, the purpose of the first chapter is to give the reader an overview of the rationale behind the thesis. Therefore, in the upcoming paragraph, an overview of the structure of this thesis is given. This serves as a guideline of the different chapters for the reader of the thesis.

**Chapter 1** contains our introduction. It includes our motivation for choosing this exact topic and the purpose of the thesis. These considerations result in the unfolding of our research questions and its sub-questions. Lastly, this chapter discusses the philosophy of science underlying this thesis.

**Chapter 2** includes the literature review. Here we discuss the current scientific knowledge and understandings of the theoretical concepts of market orientation. This discussion constitutes our theoretical viewpoint through a review of relevant existing research. First, literature on market orientation is reviewed, followed by its effect on business performance. Later, this chapter taps into the moderating factors of market orientation and discusses the relationship between market orientation and innovation. At last, the logical hypotheses are deduced from the existing literature.

**Chapter 3** includes a short introduction to the pharmaceutical industry. The main focus of this chapter is to highlight the changing business model characterizing the pharmaceutical industry today. This chapter serves as a source of background information for the reader.

**Chapter 4** includes the methodological consideration underlying the analysis. The methodology chapter starts with a discussion of the evaluation criteria of proper scientific research. Further, the selected research design is described and discussed in relation to these criteria. Following the research design the data generation methods are introduced. Here the specific focus lies in justifying the choice of conducting a content analysis. Next, the sampling procedures are discussed and the final sample is selected. The last part of the methodology chapter serves the purpose of developing a proper coding manual for the analysis. The fundamentals of the coding manual are built on the existing literature reviewed in chapter two. In order to secure a reliable study, the coding manual and the underlying assumption are tested in a pilot study, before the actual analysis takes place.

**Chapter 5** includes the analysis of the pharmaceutical industry. The chapter begins by describing the preliminary results from the content analysis. Moreover, the assumptions underlying regression analysis are discussed. Finally the statistical regression analysis is performed and the results are interpreted.

**Chapter 6** consists of the implications and conclusion of this study. First, this chapter describes the discussion, reflecting on the research question and sub-questions as well as the results of the thesis. Based on this, theoretical and managerial implications are given. Afterwards the limitations and further research possibilities are considered. Last, the thesis ends with a short and precise conclusion of the thesis, which summarizes and highlights the findings of the study.

Throughout the process of writing this thesis, the main idea has been to present the reader with a consistent product. It is therefore our intention, that each chapter should be dependent on the previous part, in order to achieve consistency throughout the thesis. Following the deductive research design, this thesis now proceeds with the literature review and development of hypotheses.

## Chapter 2 – Literature Review

The purpose of the second chapter is to provide the reader with an understanding of the theoretical viewpoint of this thesis. The theoretical findings were thereby used to build the foundation of our thesis and present an overview of the findings that have been made in the field of market orientation. Further, this review is used to argue for the different academic elements that are used in our model and the propositions we make in the subsequent hypotheses. Throughout the research it is therefore used to guide us to reason for our hypotheses, methodology and subsequent interpretation of our findings.

The literature accumulated in this chapter foremost focuses on the views and findings of the concept of market orientation, including antecedents, consequences and possible moderators. Based on the initial findings, we then shortly discuss criticisms and further thoughts on market orientation that have emerged in recent years in the later sections of this chapter.

## 2.1 Market orientation

The topic of market orientation has derived in the academic literature from the marketing concept (Desphandé & Farley, 1998). The marketing concept has been referred to as the foundation of modern marketing. Its philosophy enables companies to ground its strategic decisions on a comprehensive understanding of the needs and wants of various market players (Houston, 1986; Desphandé & Farley, 1998). Market orientation has thereby emerged as one cornerstone that specifically revolves around the concept of creating superior business performance, by means of implement a strategic orientation that is based on customer and market needs (Goldman & Grinstein, 2010; Hurley & Hult, 1998). In today's literature, one can find several different definitions of market orientation. In 1994, Slater and Narver proposed that businesses are market-oriented, "when its culture is systematically and entirely committed to the continuous creation of superior customer value" (p. 22). A broader understanding is adopted by Deshpandé, Farley and Webster. They simply state that market orientation is "a set of beliefs that puts customer's interest first" (Deshpande, Farley, & Webster, 1993, p.27). Despite the disagreement in defining market orientation, the value for companies that engage in market oriented strategies are derived through the company's focus on "(1) continuously collecting information about target-customers' needs and competitor's capabilities and (2) using this information to create continuously superior customer value" (Slater & Narver, 1995, p.63). The key players that are needed to create this value are customers, competitors and other significant market influencers (Slater & Narver, 1994).

In the early studies, researchers were mainly concerned with arguing for a conceptual understanding whereas later studies shifted to empirical findings and international aspects of the topic (Goldman & Grinstein, 2010). During this time two main research streams have emerged in the literature, namely Narver and Slater's (1990) understanding of market orientation as an organizational characteristic and Kohli and Jaworski's (1990) idea of viewing market orientation as a part of organizational behaviors (Cano, Carrillat, & Jaramillo, 2004). Both studies have build the foundation of today's understanding of market orientation and have shifted the focus from being a conceptual model to a business philosophy. Hence, both of them are further described in the next paragraphs.

## 2.2 Kohli & Jaworski: Market orientation as an organizational behavior

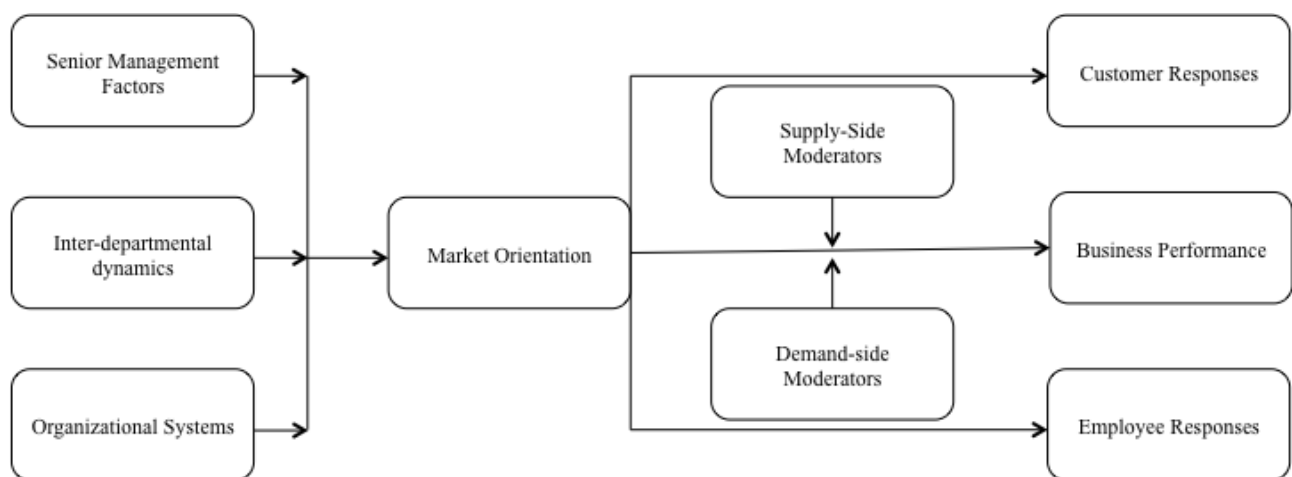
Kohli and Jaworski are the first authors who have described market orientation as an organizational behavior. They interpret market oriented companies as entities that focus on their customer needs by generating, disseminating and interpreting customer information (Hult, Ketchen, & Slater, 2005; Kohli & Jaworski, 1990). Their market orientation construct is based on three key aspects, namely intelligence generation, intelligence dissemination, and responsiveness (Kohli & Jaworski, 1990). *Generating market intelligence* includes to not only focus on the current knowledge within a market, but also anticipate future needs and trends when making strategic decision. Besides customers, also competitors and the general environment have to be analyzed to make valid market oriented business decisions. Thereby it is important to note that customers are not solely the users of the end product, but all other participants along the value chain are as well considered customers (Kohli & Jaworski, 1990).

*Intelligence dissemination* refers to the process of how knowledge can be distributed within the company. According to Kohli and Jaworski's (1990) construct, this is apparent whenever all departments are committed to being market oriented and the company facilitates horizontal communication. It is thus stressed that it is not only the responsibility of the marketing department to consider the needs of current and future customers, but all departments of a company need to contribute to the generation and dissemination of market intelligence. The third aspect, the *responsiveness* of the company, deals with how the acquired and shared knowledge is put into action. It can thereby be used to design new products, target new markets, or promote existing services (Kohli & Jaworski, 1990).

The underlying concept of the market orientation construct is that profitability is hereby viewed as a consequence of the three interlinked mechanisms of intelligence generation, dissemination and resulting responsiveness. The construct is hence more focused on processing information and adjusting organizational behavior, rather than focusing on directly increasing business outcomes (Hult, Ketchen, & Slater, 2005). It is further important to mention that, according to Kohli and Jaworski's (1990) understanding, market orientation is not simply present or absent in a company, but it can rather be seen as a continuum. Thus, companies can differ in their degree of market orientation.



The complete market orientation model of Kohli and Jaworski's can be viewed in Figure 1. Three antecedents, namely senior management factors, interdepartmental dynamics, and organizational systems are proposed to be the antecedents to a market oriented behavior. All three of them are discussed later in this chapter. Moderators that have been proposed in the initial model are supply-side moderators and demand-side moderators. Both of them are being only discussed in further detail in later research studies of Kohli and Jaworski (1993). They are therefore disregarded in this thesis. Last, the model addresses the potential consequences, customer response, business performance, and employee responses, respectively. All three consequences are also discussed in later parts of the literature review.



Source: Kohli and Jaworski (1990)

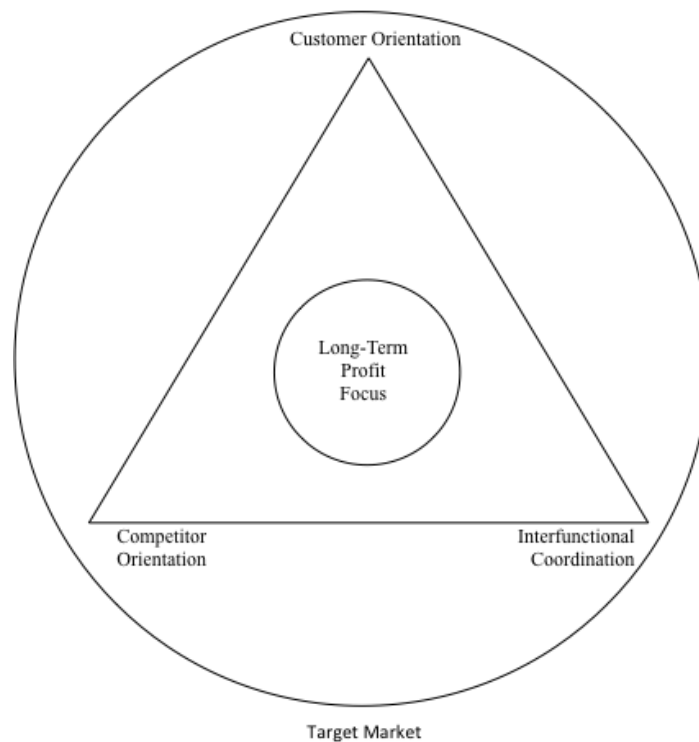
**Figure 1:** Antecedents and Consequences of a Market Orientation

### 2.3 Narver & Slater: Market orientation as an organizational characteristic

Narver and Slater's view on market orientation is built upon the notion that it is embedded in the organizational culture of companies. They argue that companies are only able to have a sustainable competitive advantage, when their organizational culture supports the creation of superior value (Grinstein, 2008; Hult, Ketchen, & Slater, 2005). In their work, they define market orientation as "the organization culture that most effectively and efficiently creates necessary behavior for the creation of superior performance for the business" (Narver & Slater, 1990, p.21). Market oriented companies must hence create an organizational culture that facilitates the creation of long-term and

trustworthy relationships with current and future customers in order to achieve a sustainable competitive advantage (Narver & Slater, 1990).

The market orientation construct is according to Narver and Slater (1990) composed of three behavioral elements, namely customer orientation, competitor orientation, and interfunctional coordination, as well as two decision criteria, namely long-term focus and profitability (Narver & Slater, 1990). In order to create superior value for the company, their model assumes that all five components are equally relevant and must be supported by the organizational culture. *Customer and competitor orientation* deals with the activity of acquiring knowledge about competitors and buyers and effectively disseminate it within the company. The third behavioral component, *interfunctional coordination*, is concerned with how the company utilizes its resources and coordinated efforts by using the acquired knowledge to create superior customer value. The two decision criteria are meant to set the boundaries for market oriented firms. The implementation of the three behavioral components as well as the resulting profits must be based on a long-term focus, to guarantee a sustainable competitive advantage. In contrast to Kohli and Jaworski (1990), who interpret profitability as an outcome of their market orientation construct, Narver and Slater (1990) integrate it into their initial model as an objective of all businesses. Both, long-term focus and profitability are therefore needed in order to ensure the survival in a competitive landscape (Narver & Slater, 1990).



Source: Narver and Slater (1990)

**Figure 2:** Market Orientation

In the above figure (Figure 2) the complete model of Narver and Slater (1990) is shown. In this figure it becomes evident that all three elements must be aligned in order to effectively create superior value in a specific target market. Long-term profitability and profit focus are further at the center of all strategic decisions that are made within the company.

## 2.4 Similarities and differences of Kohli & Jaworski and Narver & Slater

Both constructs of market orientation have been extensively used in past academic literature when studying market orientation. It is therefore important to outline the factors that distinguish the two views, but also consider where both studies have a common understanding. The following paragraphs thus mention the most important differences and similarities between the two market orientation constructs.

The main purpose of both studies is to define market orientation and to provide a measurement scale for the effect of market orientation on business performance. In contrast to Narver and Slater, Kohli and Jaworski's motivation stems from the idea of implementing the marketing concept.

Building upon that, their definition of market orientation is based on the behavioral dimension of a company. The behaviors and actions a company takes are thus the most critical components, when wanting to become a market oriented entity. Narver and Slater's definition on the other hand depends on the culture of an organization. The norms and values that an organization incorporates are the most important elements in order to be market oriented. Both studies however consider both culture and behavior as an important part of being market oriented. In Kohli and Jaworski's work, organizational culture is for example referred to as a separate factor, which belongs to the antecedents of market orientation, but is not regarded as a part of market orientation per se.

The goal of both studies is to measure the effect of market orientation on business performance. Whereas Narver and Slater only focus on the company's profitability as performance outcomes, Kohli and Jaworski consider also two other consequences, namely employee responses and customer responses, in their initial framework. The underlying assumption of both studies is that being market oriented leads to superior business performances and a competitive advantage. Narver and Slater however explicitly mention that companies have a sustainable competitive advantage, when engaging in market oriented strategies. This highlights the importance and relevance of the topic, as it assumes long-term and above-normal business results for market oriented companies. While not explicitly mentioning a sustainable competitive advantage, Kohli and Jaworski however also consider the importance of a long-term focus when implementing market oriented strategies.

Customers and competitors are the main focus of both studies. Superior value is supposed to be achieved by focusing on customers' needs and competitors' actions. It is thereby not only the current, but also the future customers' and competitors' actions that are considered in this proposition. Thus it is not only the outspoken needs and current competitors' actions that define the strategic actions of a market oriented company, but also the underlying trends and wishes. To accomplish this, both studies mention the necessities for the whole company to be engaged in market oriented activities. It is explicitly mentioned in both studies that all departments and also all levels of the organizations are important to gather information on the market they are situated in. Once the information is collected, it is crucial that it is disseminated (Kohli and Jaworski, 1990) or coordinated (Narver and Slater, 1990) within the company. Without the internal mechanisms, the information cannot be effectively used to create superior value for the consumer.

Both frameworks have been considered to be the first ones that not only contribute to the theoretical understanding of market orientation, but to shift attention to empirical findings and the implementation of it (Goldmand & Grinstein, 2010). By developing specific scales and measurement tools, both of them have paved the way for other researchers to study the link between market orientation and business outcomes (Desphandé & Farley, 1998; Goldmand & Grinstein, 2010). Whereas some researchers have solely based their work on either one of the two definitions and constructs of market orientation, there has been an increasing amount of studies that have tried to combine both frameworks. Hence, in the following paragraph, we take a closer look at why both constructs are considered to be relevant.

## 2.5 A combined approach of market orientation

Already in 1994, Day builds upon both studies in order to describe how companies can achieve and sustain market orientation within their company. The study points out that both definitions are based upon the notion of acquiring knowledge from customers, competitors and the market (Day, 1994). Day (1994) uses this statement to argue for his assumption that both frameworks rely on two superior capabilities, namely market-sensing and customer-linking. In his study he uses the combined approach of the two frameworks to describe a set of guidelines on how to acquire market-sensing and customer-linking capabilities to become market oriented. One can thus argue that both frameworks need to be considered when developing superior market orientation capabilities within a company.

In 1995, Cadogan and Diamantopoulos go one step further and attempt to integrate both frameworks into a single construct that uses combined and overlapping elements. In the study they extensively compare the individual components of Narver and Slater, namely customer orientation, competitive orientation, and interfunctional coordination, with Kohli and Jaworski's, namely intelligence generation, intelligence dissemination, and responsiveness. Their findings reveal that especially on the conceptual and operational level, both constructs are similar. Differences are however outlined in the terminology and constructs of the two frameworks (Cadogan & Diamantopoulos, 1995). To build a more solid framework and improve the diagnostic capabilities of it, Cadogan and Diamantopoulos (1995) synthesize the two views into a reconceptualized framework that includes elements of both constructs.

In 1999 Lafferty and Hult, engage in a similar research study when trying to synthesize contemporary market orientation perspectives. Part of their research outlined the distinction between Kohli and Jaworski's focus on managerial behaviors and Narver and Slater's on organizational culture. They extend existing research by arguing that the organizational element of Narver and Slater enhances the structural focus of Kohli and Jaworski, as it is more concerned with the "heart of the concept" (p.103) and specifically looks at the values of the organization (Lafferty & Hult, 1999). Thus, Lafferty and Hult (1999) stress that both constructs are necessary as they build upon each other. In conclusion they argue that only the combined market orientation approach enables companies to meet specific customer needs and add value for potential buyers.

In the same year, Avlonitis and Gounaris (1999) have not only argued for the synthesis and complementarity of the behavioral and cultural definitions of market orientation, but they also found empirical evidence supporting the assumption. In their study they investigate whether the two constructs complement each other and are both inseparable within a company setting, rather than being two distinct concepts. By assessing 444 Greek companies, their findings support the initial hypothesis and reveal that in practice, market oriented companies inherit both cultural and behavioral practices. Market oriented companies thus do have a culture that focuses on satisfying customers' needs as well as engages in behaviors and activities that reflect this attitude (Avlonitis & Gounaris, 1999). Hence in practice, both the organizational culture and behaviors are market oriented to create superior value for the consumers.

This argument is supported also in more recent studies, such as the one pursued by Hult, Ketchen and Slater (2005). Their research focuses on the importance of using the synthesized approach of market orientation in order to receive above average performance outcomes. They propose to use both market orientation constructs to create a model of performance. Neglecting one of the constructs can lead to an incomplete picture of how market orientation effects business performance. Indeed in their empirical findings it becomes apparent that both constructs should be used to achieve superior performance antecedents (Hult, Ketchen, & Slater, 2005).

Based on the substantial evidence that has been found on using the combined approach of market orientation, many scholars are now using elements from both constructs. It is therefore important to mention that market oriented companies must establish both a culture that supports customer orientation as well as engage in behaviors and actions that facilitate the generation, dissemination and responsiveness of knowledge (Grinstein, 2008; Hurley & Hult, 1998; Kirca, Jayachandran, & Bearden, 2005).

The literature review therefore continues with describing the three antecedents, which have only been mentioned in Kohli and Jaworski's (1990) model and subsequently the consequences that are recognized in both Kohli and Jaworski's (1990) and Narver and Slater's (1990) model. Further, three potential moderating factors that have been extensively discussed in academic literature are described.

## 2.6 Antecedents of market orientation

To implement market orientation within a company, specific antecedents have been defined in Kohli and Jaworski's (1990) work. According to them, antecedents are essential for companies to consider when pursuing a market orientation strategy. The main reason for this is their influence on either strengthening or diminishing market orientation behavior in a company (Kohli & Jaworski, 1990). The initial construct of Kohli and Jaworski (1990) includes three sets of antecedents, namely senior management factors, interdepartmental factors, and organization system factors. All three categories as well as findings on the antecedents from subsequent studies to Kohli and Jaworski's (1990) first outcomes are now briefly explained in the following paragraphs.

*Senior management* is the first factor and has been classified as one of the most important antecedents in terms of successfully implementing market orientation, as top managers significantly influence the values and business orientation of a company (Jaworski & Kohli, 1993; Kohli & Jaworski, 1990). It is thus crucial that senior managers act as evangelists and role models of market orientation, so that employees adapt the same strategic mindset. Further, senior management needs to be risk taking, rather than risk averse, to facilitate organizational responsiveness to new market needs (Jaworski & Kohli, 1993).

The second set of antecedents is concerned with the intergroup functions of the organization, namely the so-called *interdepartmental dynamics* (Kohli & Jaworski, 1990). Interdepartmental dynamics are concerned with formal and informal relations among organizational members and consist of two factors, interdepartmental conflict and connectedness (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993). If conflict arises between departments or different members of the organization it negatively effects knowledge sharing, ultimately leading to lower levels of market intelligence dissemination and responsiveness to market needs (Jaworski & Kohli, 1993). Interdepartmental connectedness on the other hand strengthens the communication among organizational members and thus positively influences knowledge dissemination (Jaworski & Kohli, 1993).

The last antecedent mentioned by Kohli and Jaworski (1990) is *organizational systems*. This antecedent describes the structure of an organization and its influences on the degree of market orientation. In the initial construct, it is assumed to consist of four factors: formalization,



centralization, departmentalization, and reward systems respectively (Jaworski & Kohli, 1993). The degree of formalization (the level of formal authority and extend of rules defining roles) and departmentalization (the number of departments within an organization) has however been found to not significantly influence market orientation (Jaworski & Kohli, 1993). Centralization (the degree of delegating decision-making power) on the other hand can negatively impact market orientation as it inhibits intelligence dissemination and responsiveness. The last factor, reward systems, can potentially lead to a higher degree of intelligence generation, dissemination and responsiveness, if it is based on market-based performance measures such as customer satisfaction or customer relationships (Jaworski & Kohli, 1993).

The important role of senior management in creating a market orientation, has been confirmed by many other scholars (e.g. Narver, Slater, & Tietje, 1998; Day, 1994; Kirca, Jayachandran, & Bearden, 2005; Narver & Slater, 1990). Support for the other factors has however been mixed. No significant influence was found for the antecedents interdepartmental connectedness, formalization, and centralization in an Australian research study (Pulendran, Speed, & Widing, 2000). In another study based in the United Kingdom, connectedness and formalization only resulted in being partially supported, whereas centralization was fully supported (Harris L. C., 2000). This indicates that the significance of antecedents may vary in regard to country-specific influences. Further it has been examined that also interdepartmental antecedents or intergroup functions can have a different influence and significance, depending on the country an organization is operating in (Brettel, Engelen, Heinemann, & Vadhanasindhu, 2008). In a meta-analysis that aggregates the empirical findings until the year 2004, it has further been found that the only three significant antecedents are senior management, interdepartmental connectedness and market-based reward systems (Kirca, Jayachandran, & Bearden, 2005). Hence, the findings on antecedents of market orientation only result in mixed findings and are in need for further research as it might depend on the cultural and industry setting of the respective organization (Harris L. , 2001; Kirca, Jayachandran, & Bearden, 2005).

## 2.7 Consequences of market orientation

Most literature that has explored market orientation is mainly concerned with the consequences or concrete outcomes for businesses of creating superior value. Hence, studies commonly try to

explore the effect of market orientation on business outcomes. In this thesis we focus on four specific outcomes that have been touched upon by the two initial empirical models, but also have been repeatedly discussed in previous studies. Specifically, the four discussed consequences are business performance, employee factors, customer response, and innovation outcomes.

### 2.7.1 Business performance

The majority of studies have focused on objective business performance outcomes that result from a market oriented strategy (Narver & Slater, 1990; Lusch & Laczniak, 1987). The importance of this consequence stems from the significance for managers to often predict business performance outcomes, making it one of the most important consequences when considering a certain business strategy (Hult, Ketchen, & Slater, 2005). Many studies have indeed found that market orientation does have a positive effect on business performance (Kirca, Jayachandran, & Bearden, 2005; Spiteri & Dion, 2004). The first two that have empirically tested this relationship are Kohli and Jaworski (1990) and Narver and Slater (1990). Both studies propose a positive relationship between market orientation and business performance, meaning that a higher degree of market orientation results in a higher degree of business performance outcomes.

Narver and Slater (1990), focus solely on business performance as a consequence of market orientation. In their study, they find that for both commodity and non-commodity businesses, market orientation is strongly related to profitability. They further argue that whenever commodity businesses have a high degree of market orientation, they also have a greater control over the market. The positive relationship between market orientation and profitability for commodity businesses is however only observable for commodity businesses that perform above the median in terms of being market oriented (Narver & Slater, 1990). The initial findings have been extended by Jaworski and Kohli in 1993. In their research they distinguish between objective and subjective business performance measures. This study shows that subjective measures do show a positive effect of market orientation on business performance. Objective measures, in this case market share, on the other hand, does not seem to be effected by market oriented behaviors. Hence, they only find mixed support for the importance of market orientation in the business performance context (Jaworski & Kohli, 1993). Nevertheless, they do recommend that managers should use a market orientation strategy, when striving for higher business performance outcomes.

Despite the initial mixed findings from Kohli and Jaworski (1993) of the effect of market orientation on business performance outcomes, studies have however consistently found positive support for the direct link. The main argument hereby is based on the fact that market oriented companies are assumed to inherit capabilities that enhance a dynamic organizational setting by decreasing the time to react to market changes and customer needs (Morgan, Vorhies, & Mason, 2009). The relationship has been found to be significant with both subjective business performance measures (Slater & Narver, 1994; Deng & Dart, 1994; Deshpande, Farley, & Webster, 1993) as well as objective business performance measures (Reukert, 1992; Jaworski & Kohli, 1993; Lambin, 1996; Morgan, Vorhies, & Mason, 2009). The findings have also been found by using both Narver and Slater's construct (Slater & Narver, 1994; Deng & Dart, 1994; Greenley, 1995; Kumar, Subramanian, & Yauger, 1998) and Kohli and Jaworski's framework (Jaworski & Kohli, 1993; Diamantopoulos & Hart, 1993; Raju, Lonial, & Gupta, 1995).

Positive findings have also been reported in a study written by Deshpande, Farley and Webster (1993). They do find that customer oriented companies, which are based on the marketing concept, do perform better in comparison to companies that rely on other business strategies. This effect is however only significant, whenever the company is assessed through customers, not managers. This implies that managers seem to be biased, when evaluating their own company's degree of market orientation (Deshpande, Farley, & Webster, 1993). In a subsequent study, which was based on Kohli and Jaworski's work, further mixed results for the positive effect of market orientation on business performance has been found. Specifically, Diamantopoulos and Hart's (1993) study on UK-based manufacturing companies reveals that the link cannot be supported in all market contexts, but rather varies according to the market setting a company operates in. The results hence indicate that the link between market orientation and performance underlies more complex influences than first anticipated (Diamantopoulos & Hart, 1993). Similar results have been reported in a study that investigates the effect of market orientation on business performance of Saudi Arabian banks. It was found that market orientation is not related to the outcomes of return on assets, return on equity, and sales-per-employee (Buhian, 1997). These findings have been consistently supported by several other researchers that have either found no relationship or only mixed results on the effect of market orientation on business performance (Selnes, Jaworski, & Kohli, 1996; Greenley, 1995; Appiah-Adu & Ranchhod, 1998; Au & Tse, 1995). Studies that have

found those contradictory results, have mostly been focused on samples outside the United States, in this case the United Kingdom, Scandinavia, and New Zealand.

Due to the above mentioned findings that often the business environment and the industry context matters, it has been proposed early on, that the relationship between market orientation and business performance might be moderated by environmental factors. Hence, the next section focuses on the research outcomes of the moderating role of environmental factors on the business outcomes of market oriented companies.

## 2.8 Environmental factors as a moderator

The link between market orientation and business performance has already been proposed to be moderated by environmental effects in the initial construct of Kohli and Jaworski (1990). In their analysis it has been outlined that the relation between market orientation and business performance can potentially be weaker under the condition of only few competitors, technological turbulent and stable market conditions. On the other hand, in unstable, non-technological turbulent and competitive environments, being market oriented can have a stronger positive impact on companies' firm performance (Kohli & Jaworski, 1990). These assumptions are based on previous findings that suggest that the importance of being market oriented varies depending on the environmental context a company operates in (Houston, 1986; Tauber, 1974). The following paragraphs shortly present the three environmental factors of Kohli and Jaworski's framework, as well as additional contributions that have been found in later studies.

### 2.8.1 Market Turbulence

Jaworski and Kohli test the actual effect of three moderating environmental factors on the market orientation-firm performance link in a study in 1993. First, they evaluate the moderating effect of market turbulence. *Market turbulence* has been defined as "the rate of change in the composition of customers and their preferences" (Kohli & Jaworski, 1993, p. 57). In turbulent markets, organizations need to adapt their products or services frequently to new customer needs, hence being market oriented becomes more important. Thus, Kohli and Jaworski (1993), propose a stronger effect of market orientation on business performance in highly turbulent markets.

### 2.8.2 Competitive Intensity

The second potential moderating environmental factor is the *competitive intensity* (Jaworski & Kohli, 1993). In previous studies, it has already been argued that organizations operating in highly competitive industries are expected to engage more in market-oriented behavior (Lusch & Laczniak, 1987). Hence, Kohli and Jaworski (1993) assume that companies which are not market oriented but operate in highly competitive markets are more likely to lose customers to competitors which adjust quicker to customer needs. Thus the effect of market-orientation on business performance is hypothesized to be stronger, the more competitors exist within a market (Jaworski & Kohli, 1993).

### 2.8.3 Technological Turbulence

Technological turbulence is the third environmental factor that Kohli and Jaworski (1993) consider to have a moderating effect on the market orientation-business performance link. A technological turbulent market is thereby assumed to have a high rate of technological change. In those markets, the likelihood to gain a competitive advantage through technology innovation, instead of being market oriented, is higher. Hence, it is hypothesized that the market orientation-business performance effect is less important in industries characterized by high technological turbulence (Jaworski & Kohli, 1993). This assumption has already been supported in earlier studies, as especially discontinuous innovations are often not adopted and accepted by the consumers in the beginning. Hence, it might be a disadvantage to be market oriented in technology-savvy industries (Tauber, 1974).

Besides the three main environmental factors that are assumed to have an effect on the link between market orientation and business performance, several other factors have been examined in the literature. Factors that have received attention are for example market growth, market dynamics or competitive hostility (Slater & Narver, 1994; Pelham & Wilson, 1995; Homburg & Pflesser, 2000; Atuahene-Gima K. , 1993). The most important studies however, that have empirically tested the moderating effect of the environment in somewhat larger settings, examined the proposed moderating effects of technological turbulence, competitive intensity, and market turbulence (Atuahene-Gima K. , 1993; Han, Kim, & Srivastava, 1998; Kirca, Jayachandran, & Bearden, 2005; Bhuian, 1998). Hence we proceed with only taking a distinct look at the findings of these three potentially moderating environmental factors.

The previous findings have resulted in mixed support for all three environmental moderators. In the initial study of Jaworski and Kohli (1993), findings indicate no support for any of the three moderating factors. The relationship between market orientation and business performance was neither moderated by market turbulence, competitive intensity, nor technological turbulence. Hence, the direct link is assumed to be robust under varying market settings (Jaworski & Kohli, 1993). These findings have however already been questioned by Jaworski and Kohli (1993) themselves, as they acknowledge that their results have been biased by the use of a small sample size and low reliability of their measurements. In a subsequent study by Slater and Narver (1994), outcomes indicate mixed support for the three environmental moderators. In terms of market turbulence, they do find that in case of low market turbulence, a higher degree of market orientation is more significant. In markets that are characterized by high market turbulence, market orientation becomes less important. The same assumptions and logic apply to technological turbulence. Slater and Narver (1994) however do find no significant support that the competitive environment does moderate the link between market orientation and business performance. Overall, they find only limited support for the moderating effect of environmental factors, assuming that market orientation effects are long-term and are thus not influenced by short-term moderating environmental effects (Slater & Narver, 1994).

In other studies, findings however indicate a slightly different conclusion. In contrast to the initial findings of Jaworski and Kohli (1993), they do find significant support for a substantial influence of competitive intensity. The relationship between market orientation and business performance has been found to be stronger, when companies operate in perceived competitive and hostile industries (Atuahene-Gima K. , 1993; Diamantopoulos & Hart, 1993; Bhuian, 1998). The results have been found to be significant in both early stages of the product life cycle, but also in later stages. Especially in later stages in the product or service life cycle, competition increases and market orientation becomes more important (Atuahene-Gima K. , 1993). In terms of market turbulence, several findings indicate that the more turbulent a market is, the more significant the effect of market orientation on business performance (Hult, Hurley, & Knight, 2004; Homburg & Pflesser, 2000; Harris L. , 2001) and vice versa (Greenley, 1995). Many studies however only find non-significant support for the technological turbulent moderator, indicating that it should not be

considered as a moderating factor of the market orientation-business performance link (Bhuian, 1998; Appiah-Adu & Ranchhod, 1998; Harris L. , 2001).

In a meta-analysis conducted by Kirca, Jayachandran and Bearden (2005), an overview of the mixed findings was created in order to find conclusive answers to the debate. For the moderating factor market turbulence, 5 out of the 14 studies indicate that there is support for the moderating effect of market turbulence on the market orientation-business performance link. The same result appears for the moderating factor competitive intensity, which results in 5 out of 17 studies indicating significant outcomes. In terms of technological turbulence, however only 1 out of 11 studies supports the importance to consider technological turbulence as a moderating factor (Kirca, Jayachandran, & Bearden, 2005). These findings indicate strong evidence for the three environmental factors to not have a significant moderating effect on the market orientation-business performance link. It is however also mentioned in the study that the resolving effect of the three potentially moderating factors still remains an unsolved issue, which depends to some extent on the situational and empirical settings of studies. Environmental moderating factors should thus not be ignored in further studies, but rather need to be included and tested in different business settings (Kirca, Jayachandran, & Bearden, 2005).

Having explored the previous findings on the moderating role of the three environmental factors market turbulence, competitive intensity and technology turbulence, the literature review continues with the three remaining consequences of market orientation, included only in Kohli and Jaworski's framework.

## 2.9 Employee factors

In the empirical study of Jaworski and Kohli (1993), the first consequence that is discussed are employee factors. Employee consequences are twofold; first, according to Jaworski and Kohli (1993), market oriented companies increase the organization's esprit de corps. This means that employees have a greater feeling of pride and belonging when working for a market oriented company in contrast to a non-market oriented company. Second, the organizational commitment of employees is also hypothesized to increase due to the common goal of pleasing the customers' needs. In their results they do find strong support for both employee consequences, indicating a

stronger bond between the company and its workforce in the presence of a market oriented strategy (Jaworski & Kohli, 1993).

The positive consequences initially proposed and studied by Jaworski and Kohli (1993), have been found to hold true also in different market settings. In a study that compares the consequences in both the United States and Scandinavia, the positive effect on esprit de corps is strongly supported for both cultures (Selnes, Jaworski, & Kohli, 1996). Support has also been found in a study for organizational commitment which is set in China (Zhou, Gao, Yang, & Zhou, 2005). Hence, the positive effects of market orientation on the two employee consequences, organizational commitment and esprit de corps, seem to be robust in different country settings. Besides the direct positive effects on employees, market oriented companies have also been found to positively influence organizational processes that are tightly linked to their employees' behavior. Processes, which are found to be positively influenced, are for example, training, recruiting, and compensation (Ruekert, 1992). Findings are also supported, when data is collected directly from the company's salesforce, and not only from its managers. This outcome strengthens the validity of the initial research by Kohli and Jaworski (Siguaw & Honeycutt, 1995).

Recent studies have focused especially on outlining the importance of the employee's role in facilitating and contributing to a truly market oriented company (Rodrigues & Pinho, 2010; Pinho, Rodrigues, & Dibb, 2014; Tortosa, Moliner, & Sanchez, 2009). It has thereby been outlined that it is important for market oriented companies to consider the consequences for employees as they are the ones that live the true market orientation spirit (Castro, Armario, & Sanchez del Rio, 2005). The importance of this link has also been supported by a recent meta-analysis, which focuses on the relationship between market orientation and other strategic orientations. In this study, findings indicate the strongest relationship between market orientation and employee orientation (Grinstein, 2008). Even though they do not directly test employee factors as a consequence of market orientation, it still provides evidence for the importance of the unique bond between market orientated companies and its employees. By means of a greater feeling of belonging, employees of a market oriented company are thus assumed to not only have a higher degree of team spirit (or esprit de corps) and organizational commitment, but also job satisfaction and motivation (Grinstein, 2008).



## 2.10 Customer consequences

The second initial consequence, which has been explored in Kohli and Jaworski's (1990) framework, is customer consequence. They propose that a market oriented company has a higher customer retention rate due to higher customer satisfaction (Kohli & Jaworski, 1990). This consequence has however not been empirically tested in Kohli and Jaworski's later study in 1993. In the study of Narver and Slater (1990;1994) customer consequences have also not been included in the construct as a direct consequence, but are rather assumed to be an overall goal to better anticipate customer needs to achieve a competitive advantage.

In subsequent studies, customer consequences have also received by far the least attention in comparison to the other three mentioned consequences (Jaworski & Kohli, 1996). There are however a few studies, which include it in their constructs. Castro et al. (2005) have proposed that for service companies, market orientation does not directly relate to a higher degree of customer orientation, but is effected through customer's perceived service quality. In their study, they find support for this claim as their results indicate that market orientation has a positive effect on perceived customer orientation, which in turn positively influences customer satisfaction. In their discussion they stress the importance of the effect of market orientation on customer satisfaction and loyalty (Castro, Armario, & Sanchez del Rio, 2005). The additional factor of customer loyalty has also been supported by the meta-analysis of Kirca, Jayachandran and Bearden (2005). In their framework, they argue that customer consequences consist of three main factors, namely perceived quality, customer loyalty, and customer satisfaction. All three factors have been found to be positively effected by market orientated behavior (Kirca, Jayachandran, & Bearden, 2005; Spiteri & Dion, 2004).

## 2.11 Innovation outcomes

The last consequence discussed in this thesis is innovation consequences. This consequence has only been included in a refined model of Jaworski and Kohli in 1996. In this study, they discuss the need for further research of the effect of market orientation on innovation outcomes, because findings are either showing contradictory results (Tauber, 1974) or lack empirical evidence (Jaworski & Kohli, 1996). Jaworski and Kohli (1996) further stress the importance of considering the difference of an innovation being new to the company or to the entire world and what type of innovations exist. Both considerations can potentially impact research results and thus need to be

considered beforehand. To understand the differences in the subsequent review of the variable innovation consequence, we now shortly distinguish between the different innovation types and forms of innovation. This gives a complete understanding and picture of which innovations have been referred to in the market orientation literature.

## 2.12 Innovation

The concept innovation was first introduced by Joseph Schumpeter. Schumpeter argues that economic development is driven by a dynamic process where new technologies replace old ones. This process is the innovation process which he labels “creative destruction”. Innovation can thereby be separated into five different types namely; (1) Introduction of new products, (2) introduction of new methods of production, (3) opening of new markets, (4) development of new sources of supply for raw materials or other input, and (5) creation of new market structure in an industry (Schumpeter, 1934). Based on these early definitions, the Oslo Manual OECD has more recently defined innovation as “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external” (2005, p. 46). Innovation in a company can therefore be characterized by either one or several of the above mentioned types. It solely requires that the product, process, marketing or organizational method has to be either new to or significantly improve the company; implying a high degree of novelty in the innovation (OECD, 2005). In most of the market orientation literature the first type, namely product innovations, has been discussed (de Luca & Atuahene-Gima, 2007; Lukas & Ferrell, 2000). Hence, we from now on only focus on product innovations in the proceeding literature review.

Product innovation has been defined according to the Oslo Manual OECD (2005) as a new or significantly improved service or good. Innovations can therefore relate to technical specifications, software in the product, user friendliness, components and materials, or other functional characteristics (OECD, 2005). In market orientation literature two views can further be adopted when referring to product innovations, namely the customer’s perspective and the firm’s perspective. The first one refers to the extend of behavioral change that the customer has to go through when purchasing the new product (Lawton & Parasuraman, 1980). The latter refers to the degree of difference between the new goods and the already existing goods in the market. The

degree can vary between the extremes of on the one hand product modifications and line extensions and on the other hand new product lines and new-to-the-world products (Yoon & Lilien, 1985).

#### 2.12.1 Innovation consequences – part 2

In the literature that has appeared before Kohli and Jaworski's refined study of their original concept, contradictory findings existed on the effect of market orientation on innovation outcomes. In early studies, it is proposed that market orientation has a negative impact on innovation, as it prohibits the creation of new products and only enhances the development of "me-too" products (Bennett & Cooper, 1981). They especially refer to product innovations and claim that market orientation "led to a dearth of true innovation" (p.53), because they argue that "it has shifted the strategic focus of the firm away from the product to other elements of the marketing mix" (p.53) that are not based on long-term success factors. In line with this is the argument that consumers are not a reliable source to influence innovations, as they are not adequately able to imagine which products they want to use in the future (Hayes & Abernathy, 1980). A lack of new-to-the-world or radical innovations is therefore assumed (Bennett & Cooper, 1981; Hayes & Abernathy, 1980).

On the contrary, studies have also found positive effects of market orientation on innovation outcomes, for example the increased speed of adoption and innovation success (Cooper, 1979; Cooper & Kleinschmidt, 1987; Li & Calatone, 1989). When companies are market oriented, customers seem to have an easier time to adjust their behavior to new product innovations (Atuahene-Gima, 1993; Atuahene-Gima, 1996). Hence, behavior changes due to new innovations are perceived to be less severe compared to new products that have been developed by non-market oriented companies. Besides the speed of adaption to new products, the success of new products and services is also enhanced with market oriented strategies (Atuahene-Gima K. , 1993; Kirca, Jayachandran, & Bearden, 2005; Hurley & Hult, 1998). This conclusion has been based on the outcomes that market orientation leads to first a greater effectiveness of managers to positively influence a firm's innovation activities (Atuahene-Gima K. , 1993; de Luca & Atuahene-Gima, 2007), and second an emphasis on the importance of using information about the customer (Kirca, Jayachandran, & Bearden, 2005).

In order for market orientation to effectively impact product and service success there are two main important factors to consider. First, companies need to emphasize their market intelligence, as this

has been found to create the strongest link between market orientation and innovation (Wren, Souder, & Berkowitz, 2000). Second, companies need to shift from a responsive to a proactive market orientation approach (Narver, Slater, & MacLachlan, 2004). By incorporating proactive behaviors, companies are able to counteract the possible above mentioned danger of only relying on customers' expressed needs (Narver, Slater, & MacLachlan, 2004). Another study that found evidence against the argument that market orientation constraints new-to-the-world innovation has used the three different effects of market orientation and focus points (Lukas & Ferrell, 2000). First, an emphasis on customer orientation results in increased introduction of new-to-the-world products and decreases the development of "me-too" products. Second, a focus on competitor orientation on the other hand increases the launch of "me-too" products and decreases product line extensions and new-to-the-world innovations. Last, companies that emphasize interfunctional coordination increase the chances of launching line extensions, but reduce the chances of developing "me-too" products (Lukas & Ferrell, 2000).

It has also been proven that the link between market orientation and innovation has been found to be generic in terms of country-specific characteristics (Wren, Souder, & Berkowitz, 2000; Ellis, 2006). It has however been found in a comprehensive meta-analysis, that the generic relationship between market-orientation and innovation might be moderated by measurement and contextual factors, namely the requirements for greater statistical power in developing countries and the positive influence of economic development and size (Ellis, 2006). Besides moderating variables, mediating variables that have been examined in past literature are knowledge integration mechanisms, learning, orientation, or new product creativity and marketing program creativity (Im & Workman, 2004; de Luca & Atuahene-Gima, 2007; Keskin, 2006).

In some studies, organizational innovation has also been viewed as a mediator, rather than a direct consequence of market orientation (Hult, Hurley, & Knight, 2004; Agarwal, Erramilli, & Dev, 2003). The first researchers, which empirically tested the link market-orientation-innovation-business performance are Han, Kim and Srivastava (1998). In their research they find support for the mediating effects of innovation. The effect of customer orientation is most critical for the mediating role of innovation (Han, Kim, & Srivastava, 1998). Also in more recent studies outcomes have shown that market orientation only has an indirect effect on market success through innovation characteristics (Atuahene-Gima, 1996). In other studies that have tested the mediating

effect of innovation, the importance of organizational cultures that place importance on learning, development and participative decision-making is further stressed (Hurley & Hult, 1998; Agarwal, Erramilli, & Dev, 2003; Keskin, 2006). Innovation has therefore been seen as both a direct consequence, but much more often as a mediating factor that facilitates stronger business outcomes.

The overview of the literature review so far has pictured the current development and understanding around the concept of market orientation, including antecedents, consequences and possible moderating environmental factors. To get a complete understanding of the theory on market orientation, the next paragraph focuses on several studies that have raised critical remarks and discussion points about using market orientation in specific business settings. The following paragraphs therefore contribute to a deeper understanding of the concept as it outlines the boundaries of market orientation in terms of its implications and effectiveness.

### 2.13 Criticisms and thoughts on market orientation

Market orientation has been found to not always be the right strategic approach for all companies to effectively drive business success. One of the early critics have been Miles, Snow and Coleman in 1978. In their study, they argue that being market oriented can often be a complex task that is uneconomic for some companies to pursue. The argument is grounded in the fact that in order to be market oriented and effectively adapt businesses to the changing market environments companies need to constantly adjust their organizational structure (Miles, Snow, Meyer, & Coleman, 1987). When pursuing a market oriented strategy, companies are in need to first consider whether they have the capabilities and resources in order to flexibly change their organizational strategy to specific industry environments and business cycles (Miles, Snow, Meyer, & Coleman, 1987).

After the early concerns raised by Snow, Miles and Coleman, the discussion about whether market orientation is always the best strategic option for companies, has been resumed after the publication of the two empirical studies of Kohli and Jaworski (1990) and Narver and Slater (1990). One of the studies that has build upon the empirical findings is written by Christensen and Bower (1996). Specifically, they investigate the impact of market orientation on the capability to detect disruptive change in high-tech industries. It becomes apparent that companies in these environmental settings can possibly harm their business when pursuing a market oriented strategy (Christensen & Bower, 1996). Reasons for this is the danger of overreliance on customers' opinions, which often leads to

missing out on evolving trends in smaller niche markets (Christensen & Bower, 1996). In a subsequent study, these damaging effects on companies' capability of being innovative have also been found to hold true for several other industries (Christensen, 1997).

Responding to the criticisms, Slater and Narver (1998) discuss in a comment the misunderstanding of confusing market orientation strategies with customer-led philosophies. In the statement, which specifically relates to Christensen and Bower's (1996) study, they outline that the customer-led philosophy revolves around only satisfying the outspoken needs of customers, whereas market oriented companies also include customers' latent needs. Market oriented companies are hence also able to uncover trends and proactively influence markets (Slater & Narver, 1998). In a subsequent article by Connor (1999) this argument has however been challenged. In his work it is emphasized that for especially small companies, which represent the majority of worldwide enterprises, a strong customer relationship is key to business success. The danger for small sized market oriented companies thus lies in the negligence of being too inward oriented and to forget about current customer needs. It is hence suggested that companies should both incorporate a market oriented and customer-led strategy (Connor, 1999).

Building upon the discussion, Narver, Slater and MacLachlan (2004) distinguish between two forms of market orientation, namely responsive and proactive market orientation. The former refers to the concept of customer-led by addressing only customer expressed needs and wishes. Companies are thus led by their customers when making business decisions. The latter focuses on a customer understanding that comprises latent needs. Proactive market oriented companies are therefore able to lead customers, instead of only being led by them (Narver, Slater, & MacLachlan, 2004). In the same light, Jaworski, Kohli and Sahay (2000), refine the concept of market orientation by introducing the idea that market oriented companies can besides being market-driven also drive markets. Market oriented companies are thus able to actively shape the market structure they are operating in. Companies that are highly successful are most often suggested to be both market-driven and drive markets as they are then able to influence the present and future direction of the firm (Jaworski, Kohli, & Sahay, 2000).

The discussions of the critical thoughts on market orientation are used in our thesis to obtain a cautious understanding of the boundaries of the concept. The awareness that market orientation

comprises a greater understanding of customers compared to a pure customer-led philosophy, guides us in our later development of our model, methodology and analysis. We further acknowledge the perception that market orientation may vary across business units in large corporations (Reukert, 1992) in our later interpretation of our own results and findings. This enables us to build a comprehensive and profound thesis that is able to contribute to the current understanding of market orientation.

## 2.14 Summary of the theory

The above literature review comprises the interpretations, findings and criticisms on market orientation theory and thus builds the theoretical framework of this thesis. The basis for this study are the two complementary views of defining market orientation as part of organizational behavior or as an organizational characteristic which is embedded in a company's culture. The two first empirical models, developed by Kohli and Jaworski (1990) and Narver and Slater (1990), have therefore been used as a starting point to obtain an understanding of the research streams and the following discussion of the importance of market orientation on business outcomes.

It has become apparent that in recent years most studies have used a combined approach of the two initial frameworks underlining the similarities and importance of both research streams. In this regard we also used academic research of both research streams to outline the most discussed antecedents, consequences and moderating environmental factors. Special attention has been given in the last part of the review to the recent discussion on the importance of innovation in the market orientation model. Further, we acknowledged that in some business settings, market orientation might not be the most suitable strategic approach. Based on the comprehensive review, the thesis continues with arguments on which of the above discussed components are used in the thesis' research model.

## 2.15 Hypotheses

### 2.15.1 Concepts used in the thesis

Even though the literature review comprises the entire concept of market orientation, the model that is studied in this thesis only considers specific parts and relationships of the introduced concept. These parts are discussed in the following paragraphs.

First, this thesis focuses only on the direct consequences market orientation has on businesses. We therefore do not consider the findings of the three antecedents that have been described in the above review. In the thesis we assume that the underlying antecedents are reflected in the degree of market orientation that we find and are thus indirectly included in our findings. Hence we assume, that there is no need to include the antecedents as individual components in the research model.

In the above literature review it has become evident that many of the recent market orientation models include inputs from both research streams, when building the research model. We therefore use insights from both academic research streams when introducing consequences as well as moderating and mediating factors. In our later described models, we therefore use a combined approach, which uses elements from both Narver and Slater's and Kohli and Jaworski's initial frameworks. Specifically, the concept of market orientation is viewed from the perspective of Narver and Slater. Moreover, the three discussed environmental factors first suggested by Kohli and Jaworski are included in our model. Further, our main investigation is centered around objective business performance consequences of market orientation. This is due to two reasons. First, the business performance consequence has been described to have the highest influence and importance on whether businesses choose to pursue a market orientation strategy or not (Hult, Ketchen, & Slater, 2005). Second, mixed findings have primarily evolved around the objective and financial business performance measures (Jaworski & Kohli, 1993; Reukert, 1992). The link between market orientation and objective business performance measures is therefore in need of further investigation. Considering that the most recent discussion around market orientation has evolved around the possible mediating role of innovation (Atuahene-Gima, 1996), we further include this variable as a new element in this thesis.

All concepts that are included in our later model are presented in Table 1, including definitions and the respective source.



**TABLE 1**  
**Summary of theory**

Concept	Definition	Source
Market orientation	A long-term commitment to understanding customer needs - both expressed and latent - and to developing innovative solutions that produce superior customer value	Narver & Slater, 1998
Customer orientation	The sufficient understanding of one's target buyers to be able to create superior value for them continuously	Narver & Slater, 1990
Competitor orientation	A seller understands the short-term strengths and weaknesses and long-term capabilities and strategies of both the key current and the key potential competitors	Narver & Slater, 1990
Interfunctional coordination	The coordinated utilization of company resources in creating superior value for target customers	Narver & Slater, 1990
Market turbulence	The rate of change in the composition of customers and their preferences	Kohli & Jaworski, 1993
Competitive intensity	The degree of competition in an industry	Kohli & Jaworski, 1990
Technological turbulence	The rate of technological change	Kohli & Jaworski, 1993
Objective business performance	Cost-based performance measures, which reflect performance after accounting for the costs of implementing a strategy (e.g. profit measures), and revenue-based performance measures, which do not account for the cost of implementing a strategy (e.g. sales and market share)	Kirca, Jayachandran & Bearden, 2005
Product innovation	The introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses	OECD, 2005

Source: Authors' creation  
**Table 1:** Summary of Theory

After having reasoned for and defined the elements, which we are going to use in our thesis, we now derive the hypotheses and construct the final models that guide the later analysis.

### 2.15.2 Hypotheses

The hypotheses and models that are developed in this chapter include two links that investigate the direct relationship between market orientation and business performance. The first link focuses on the direct influence of market orientation on business performance, accounting for the potential moderating effects of the business environment. The second link illustrates the mediating power of

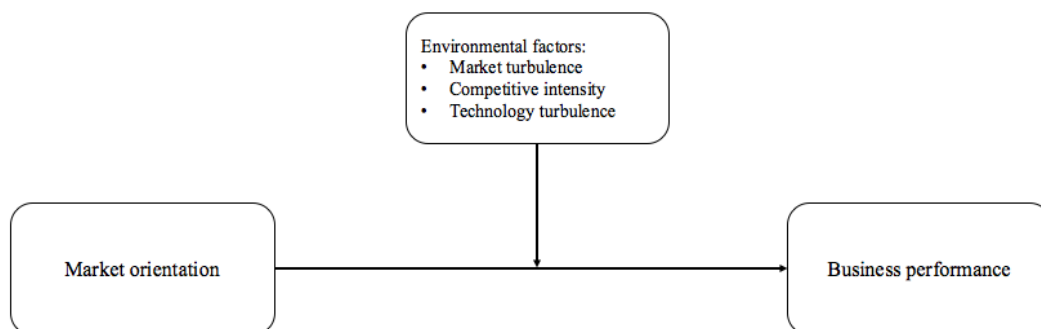
innovation on business performance. Hereby, the moderating effect of the environment is also considered as part of the relation.

We first explain the effect of the market orientation – business performance link, as well as the respective moderators. Second, we describe the market orientation – innovation – business performance relationship.

### 2.15.3 Market orientation – Business performance model

The first link that is tested in the research model is the direct effect of market orientation on objective business performance and the potential moderating effects of Kohli and Jaworki's (1990) three proposed environmental factors. Even though the direct relationship has been studied substantially in the past literature, no common understanding exists, whether the link can be fully supported. Hence, the first reason why the model includes this link is to clarify findings of previous studies and explore the most critical consequence of market orientation. Second, many studies after Kohli and Jaworski (1990), have also indicated mixed findings for the moderating effect of the three environmental factors. This leads to the conclusion that the potential moderators should be included in proceeding studies in order to explore the influence of distinct situational and empirical settings that impact the strength of the moderating factors.

The main idea of analyzing this relationship in our model is therefore to find out how the different environmental factors moderate the market orientation – objective business performance link, depending on a distinct industry setting that is described later in the thesis.



Source: Authors' creation

**Figure 3:** Market orientation – business performance model

#### 2.15.4 Direct effect of market orientation on business performance

To attract a higher number of customers and ultimately increase financial performance, firms must create a competitive advantage. A competitive advantage is achieved by inheriting capabilities that enable the respective company to provide superior value to its customers (Slater & Narver, 1994). Thereby the value created by the respective company must be perceived higher by the customer, compared to the competitors' value (Narver & Slater, 1990). Further for companies to create a long-term superior value for its customers, they must create capabilities that are sustainable. Thereby, superior performance is ensured and companies can consistently assure high financial performance (Slater & Narver, 1994).

One of the ways of creating capabilities that enable the company to create superior value for its customers is being market oriented (Narver & Slater, 1990). Market oriented companies are able to obtain superior value by creating and maintaining a corporate culture that facilitates market oriented behaviors (Narver & Slater, 1990). Value is best created by acquiring information about current and potential customers and competitors in the specific target market. For companies to effectively use the acquired information and create superior value, they must further engage in interfunctional coordination behaviors in order to transfer the knowledge throughout the organization (Narver & Slater, 1990). Thereby, distinct internal capabilities are created, such as increased customer service and higher quality (Slater & Narver, 1994), enabling the firm to most efficiently and effectively create superior value to customer (Narver & Slater, 1990). Examples are to be able to better select target markets, offering products or services that are precisely tailored towards customer's needs and preferences, or finding the most favorable distribution channel for end-customers (Kohli & Jaworski, 1990).

The unified focus which is created within the whole organization by utilizing both the market orientation knowledge and coordination efforts it ultimately leads to superior performance. Most of the empirical findings outlined in the literature review have shown a positive effect of market orientation on objective business performance (Cadogan & Diamantopoulos, 1995; Harris L. , 2001; Kirca, Jayachandran, & Bearden, 2005). Hence, we also expect market orientation to have a direct and positive effect on business performance.

#### **Hypothesis 1:**

*The greater the market orientation of an organization, the higher its business performance.*

#### 2.15.5 Moderating effect of environmental factors

The relationship between market orientation and business performance outcomes has early been proposed to be influenced by environmental factors (Kohli & Jaworski, 1990). The direct link that is hypothesized above has thereby been found to be possibly weaker or stronger, depending on the environmental conditions a company operates in. It has been found that under especially dynamic and unstable market conditions, companies are in greater need to respond adequately to customer demands in order to create superior customer value. (Narver & Slater, 1994; Jaworski & Kohli, 1993; Atuahene-Gima K. , 1993; Kohli & Jaworski, 1990). As described in the above review, we include the three originally proposed environmental factors. We thereby hypothesize that all of them moderate the link between market orientation and business performance.

The first factor that can potentially moderate the link between market orientation and business performance is *market turbulence*. Market turbulence resembles the rate of change in terms of the customer group and their preferences (Kohli & Jaworski, 1990). In the case of a high degree of market turbulence, customers frequently change their preferences and needs, implying that companies also need to respond quicker to the respective changes in order to outperform competitors (Harris L. , 2001; Kohli & Jaworski, 1990; Jaworski & Kohli, 1993). Thus, a higher degree of market orientation can be used to adjust to market changes and enable companies to create a competitive advantage. Ultimately, this is proposed to lead to higher performance compared to other competitors. If on the other hand, market turbulences are low, customer needs and preferences are assumed to not change over time. Hence, companies need to build long-term relationship with their customers, regardless of whether they are market oriented or not (Jaworski & Kohli, 1993).

In empirical findings, the moderating effect of market turbulence has been supported. In a meta-analysis conducted by Kirca, Jayachandran and Bearden (2005), in total 5 out of 14 studies have resulted in supporting findings for the moderating effect. Hence, we also hypothesize a stronger effect of market orientation on business performance in turbulent markets.

#### **Hypothesis 2a:**

*The greater the market turbulence, the stronger the relationship between market orientation and business performance.*

The second factor that is proposed to moderate the link between market orientation and business performance is *competitive intensity* (Kohli & Jaworski, 1990). Competitors are hereby classified as a group of companies that produce products that can substitute each other (Porter, 2008). Competitors can therefore also be suppliers, substitutes, and potential entrants, leading to the assumption that all rivals can be considered competitors (Porter, 2008). A strong competitive environment is thus present, whenever there are a high number of rivals and the power of the respective competitors is high (Narver & Slater, 1994). In those environments it has been suggested that due to the higher number of rivals, customers have a greater number of product or service choices (Kohli & Jaworski, 1990). Hence, firms must respond quicker to changing customer needs in order to continuously create superior value (Kohli & Jaworski, 1990). This helps them distinguish themselves from competitors and can create superior performance. On the other hand, companies, which operate in markets where there are no competitors, customers are ‘stuck’ with the products and services that are offered (Jaworski & Kohli, 1993). Hence, the need to be market oriented and change products and services to customer needs, to create a higher value for the customer, is diminished.

It is therefore assumed that in competitive intense industries, a higher market orientation leads to greater business performance outcomes. In empirical findings, mixed support was found for the positive moderating effect of high competitive intensity (Kirca, Jayachandran, & Bearden, 2005). Nevertheless, the results have been shown to be inconclusive and are in need of further analysis in specific industry settings. In line with previous research, we therefore also propose a positive moderating effect of competitive intensity on the market orientation – business performance link.

### **Hypothesis 2b:**

*The greater the competitive intensity, the stronger the relationship between market orientation and business performance.*

The last proposed moderating environmental factor is *technological turbulence*. It has been defined as the rate of technological change within an industry (Jaworski & Kohli, 1993; Kohli & Jaworski, 1990). Industries, which have a low degree of technological turbulence are therefore characterized by little change in terms of the technology that produces their products or is used to deliver services. Thus, competitors do not distinguish themselves in terms of the technological equipment

they are using. On the other hand, in technology turbulent environments, companies can create a competitive advantage when they are the first to use an advanced or new technology. Hence, the focus of those companies often shifts from being market oriented to developing the newest technologies (Kohli & Jaworski, 1990; Jaworski & Kohli, 1993). Hence in previous studies it has been assumed that the link between market orientation and business performance is weakened when companies operate in a technology turbulent industry.

In a meta-analysis, this assumption has however been rejected, as only 1 out of 11 studies support the findings (Kirca, Jayachandran, & Bearden, 2005). Further, only 1 out of the 10 contradicting outcomes results in opposing findings. In the other 9 studies non-significant effects are found (Kirca, Jayachandran, & Bearden, 2005). Considering the fact that the number of studies is not representative of the entire empirical findings on the moderating effect of technological turbulence, we are nevertheless proposing a weakened effect of market orientation on business performance in technology turbulent industries, in line with the above mentioned logic.

#### **Hypothesis 2c:**

*The greater the technological turbulence, the weaker the relationship between market orientation and business performance.*

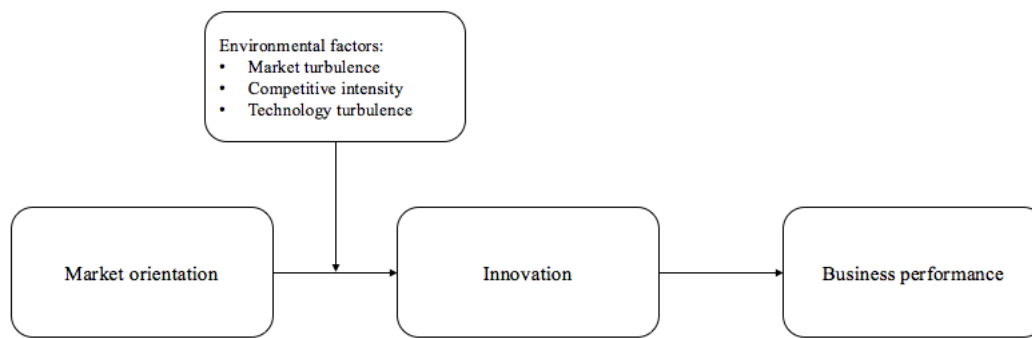
#### **2.15.6 The mediating model**

Even though the above described link between market orientation and business performance has been empirically tested the most in academic literature, there are indications that the direct effect must not always be true for all business situations. In a recent study, it has been found that only in 18 out of 27 research studies, market orientation has a direct positive influence on the profitability of a company. Further, only 4 out of 12 studies show positive results when specifically investigating the link between market orientation and market share (Baker & Sinkula, 2005). Hence, it can be assumed that the relation between market orientation and objective business performance measures might be more complex than first suggested.

One potentially mediating factor that has been discussed in previous literature is new product innovation. New product innovation thereby refers to the degree of newness in relation to already existing products in the market (Yoon & Lilien, 1985). Market orientation can thereby help to

contribute to a higher degree of new product innovations, as it is assumed to create higher customer orientation due to the constant adjustments to new customer preferences and needs (Lukas & Ferrell, 2000). Furthermore market oriented managers have a positive influence on the degree of new product innovation, because they listen more closely to customer needs and preferences (Atuahene-Gima, 1993). Based on the greater degree of market intelligence, market oriented companies inherit higher product launching capabilities, which leads to a higher number of new product innovations (Langerak, Hultink, & Robben, 2004). In terms of the three components of market orientation, namely customer orientation, competitor orientation, and interfunctional coordination, it has been found that specifically the first one has a significant positive influence on new product innovations (Han, Kim, & Srivastava, 1998), as it enhances the creation of new-to-the-world products (Lukas & Ferrell, 2000). Competitor orientation on the other hand contributes to a higher degree of me-too products, and interfunctional coordination positively influences the possibilities of line extensions (Lukas & Ferrell, 2000). In other studies, contradictory findings have shown that the latter two components have no significant influence on the development of new product innovations (Han, Kim, & Srivastava, 1998). These contradictory findings in terms of the direct link between market orientation and new product innovation have been grounded in the fact that research outcomes might highly depend on other external factors (Han, Kim, & Srivastava, 1998).

Hence in this study, we analyze a second model that addresses the mediating effect of innovation, as well as the three proposed external moderating effects proposed by Kohli and Jaworski (1990). The complete model can be reviewed in Figure 4. The main purpose of this is to find further evidence in order to clarify the so far inconclusive findings on the mediating role of innovation in the market orientation and business performance link (Lukas & Ferrell, 2000). Further, the three mentioned environmental factors are also considered to impact the strength of the mediating role of innovation. Hence, we also want to assess, whether the mediating role of innovation holds true under different environmental conditions.



Source: Authors' creation

**Figure 4:** Market orientation – Innovation – Business performance model

#### 2.15.7 Market orientation – Innovation – Business performance model

Considering the proposed mediating role of new product innovation in academic literature, it is most often assumed that new product innovation can lead to a positive influence on objective business performance (Langerak, Hultink, & Robben, 2004; Atuahene-Gima K. , 1996). One of the main advantages of market oriented companies is that market intelligence helps them to significantly reduce the perceived product newness to customers (Atuahene-Gima, 1996). Hence, resistance of customers is lower and thus contributes to a higher chance of product success and positive business outcomes by means of higher market intelligence when developing new product innovations (Han, Kim, & Srivastava, 1998; Wren, Souder, & Berkowitz, 2000). These findings have also been supported in countrywide research findings, lending support to the robustness of the mediating role of new product innovation on the market orientation – business performance link (Wren, Souder, & Berkowitz, 2000). Besides the importance of lowering the perceived newness of customers, the positive influence of market orientation on innovation leads to a higher degree of new-to-the-world innovations and thus to a greater possibility of product breadth and success (Vazquez, Santos, & Alvarez, 2001).

In the empirical findings, the mediating role of new product innovation on the market orientation – business performance link has been found to have mostly resulted in supportive findings. Further, the above mentioned hypothesis of a higher number of new product innovation in the presence of market orientation, is also proposed to positively influence the company's overall business performance. Accordingly, we propose the following:



**Hypothesis 3a:**

*Market orientation is positively related to a firm's innovative performance.*

**Hypothesis 3b:**

*A firm's innovative performance is positively related to a firm's objective business performance.*

#### 2.15.8 Moderating effect of environmental factors

As already briefly mentioned above, it has been found that the contradictory findings of the link between market orientation and new product innovation might be caused by the different environmental conditions of the research studies (Han, Kim, & Srivastava, 1998).

Innovation outcomes can be influenced by the environmental setting a company operates in. In environments, which are changing rapidly, customers expect companies to adapt their products and services constantly to the changing demand patterns (Baldrige & Burnham, 1975). The market dynamics, in terms of increased competition, the rate of new technologies, and economic developments force companies to innovate at a much higher rate, compared to previous years (Drejer, 2002). The extent of innovation stimuli is thus highly dependent on the external environmental landscape, because it determines how much emphasis of the management is placed on innovation (Smith, Busi, Ball, & van der Meer, 2008). Hence in order for companies to achieve a sustained competitive advantage, they are in need to assess the moderating effects of environmental factors (Porter, 2008) on the effectiveness of market orientation behavior on innovation outcomes. The most influential environmental factors are the ones that have been described initially by Kohli and Jaworski (1990), namely market turbulence, technological turbulence, and competitive intensity. Hence, as already hypothesized above, we also study the moderating effect of the three environmental factors on the market orientation – new product innovation link.

When companies operate in markets that are characterized by a dynamic and unstable environment, the likelihood that product and service offerings become obsolete increases. Hence, the introduction of new products and services must be emphasized, to ensure positive performance outcomes (Jansen, van den Bosch, & Volberda, 2006). In addition to that, dynamic environments encourage outsiders to enter the industry, as demand patterns facilitate the creation of new business models and product offerings (Hult, Hurley, & Knight, 2004). Thus, existing companies need to generate

higher knowledge of the market environment to be able to identify new possible entrants by constantly increasing their rate of innovation. Additionally, the rapidly changing demand patterns can lead to a higher uncertainty of customer needs and preferences (Zhou, Yim, & Tse, 2005). Hence, market orientation becomes more important when innovating new products in turbulent and unstable industry settings (Zhou, Yim, & Tse, 2005).

In spite of the mixed findings of the impact of the moderating effects of market turbulence on the market orientation – new product innovation link, we consider it necessary to investigate the proposed positive moderating effects of market turbulence in different industry settings. In line with previous research, we therefore hypothesize the following:

**Hypothesis 4a:**

*The greater the market turbulence, the stronger the positive relationship between market orientation and new product innovation.*

A higher degree of competitors can on the one hand lead to reduced availability of resources. This can have a negative effect on the rate of innovation, due to the scarcity of resources and the resulting rivalry (Jansen, van den Bosch, & Volberda, 2006). Further, companies that operate in highly competitive industries often simply imitate their competitor's innovation, in order to keep costs low and offer competitive prices (Porter, 2008). Hence, the rate of product innovation is negatively influenced by a high degree of competition. On the other hand, competitiveness can lead to an increase in innovation, by means of forcing companies to think outside the box in order to compete and survive in the fierce market place (Jansen, van den Bosch, & Volberda, 2006). This enables companies to obtain a higher customer retention rate and foster the relation to its existing customers. These companies are therefore also able to charge a price premium due to the innovative actions and can therefore positively influence their financial performance (Jansen, van den Bosch, & Volberda, 2006).

Research on the moderating effects of competitive intensity on the market orientation – new product innovation link, has been lacking (Grinstein, 2008). In recent studies however results support the moderating effect of competitive intensity on the link between market orientation and

new product innovation (Grinstein, 2008). The findings further indicate that this link is strengthened, whenever companies operate in highly competitive markets (Grinstein, 2008). Considering the lack of research on the moderating effects of competitive intensity, we assume that the so far found positive moderating effects of competitive intensity can also be found in our model. We thus hypothesize the following:

**Hypothesis 4b:**

*The greater the competition intensity, the stronger the positive relationship between market orientation and new product innovation.*

The last factor, which is addressed, is the degree of technological change within an industry. The degree has been found to particularly impact the strength of the market orientation – new product innovation link. Rapid technological change promotes a higher rate of innovation, as companies need to adapt to changing technological developments (Han, Kim, & Srivastava, 1998). Being market oriented can therefore ensure that companies are more aware of the rapid changes that occur within this industry, leading to a higher rate of innovation as well as a greater likelihood that these innovations are actually accepted in the market place (Calantone, Garcia, & Dröge, 2003). Further, through the greater generation of market intelligence, companies are able to anticipate changes in not only the direct technological changes, but also the resulting changes that occur in the value chain networks (Zhou, Yim, & Tse, 2005). Technological change often leads to new interrelationships, influences scale economies, or impacts timing and scheduling activities (Zhou, Yim, & Tse, 2005). By using market oriented strategies, companies are therefore more aware of industry and competitor actions, which in turn promotes a higher rate of new product innovation. In summary, market orientation enables companies in technologically turbulent industries to stay ahead of competition by creating a sustained competitive advantage through a higher rate of new product innovation (Han, Kim, & Srivastava, 1998).

The moderating effect of technological turbulence has been found to be highly consistent within the past research studies (e.g. Hult, Hurley, & Knight, 2004; Han, Kim, & Srivastava, 1998). Mixed findings have however been found as to whether the moderating effect strengthens or weakens the relationship between market orientation and innovation consequences (Grinstein, 2008; Hult,

Hurley, & Knight, 2004). Considering the consistent research findings, we also expect a positive moderating effect of technological turbulent environments in this thesis. In line with the above discussed logic, we propose that the link between market orientation and new product innovation is strengthened in the case of technology turbulent market settings.

**Hypothesis 4c:**

*The greater the technological turbulence, the stronger the relationship between market orientation and new product innovation.*

## Chapter 3 - Pharmaceutical Industry

The third chapter introduces the industry setting of the empirical study. Specifically, this thesis focuses on the pharmaceutical industry and only includes companies in the later sample that belong to this category. The purpose of the chapter is to give a general overview of the pharmaceutical industry as such and provide the reader with background information on the environment that pharmaceutical companies operate in.

This chapter is divided in two parts. First, the chapter explains the current state of the industry and shortly discusses the most important characteristics of the pharmaceutical business landscape. Second, the changing business model of the industry is presented. Especially the last part serves the purpose of arguing for the logic behind the reason for choosing the pharmaceutical industry for studying the market orientation and business performance relationship.

### 3.1 Current state of the industry

The pharmaceutical industry has been defined by the U.S. Census Bureau as an industry which is composed of “companies engaged in researching, developing, manufacturing, and marketing drugs and biologicals for human or veterinary use” (Administration, 2010). The industry thereby contributes to the worldwide economy through mainly its manufacturing as well as research and development activities (R&D) (International Federation of Pharmaceutical Manufacturers & Associations, 2014). Further, economic value is derived through improvements in academic research and its contribution and support of other research and production processes in different companies (International Federation of Pharmaceutical Manufacturers & Associations, 2014). This impact leads to a contribution of 3.9% of the gross value added in 2011 in manufacturing worldwide by only the pharmaceutical industry. (International Federation of Pharmaceutical Manufacturers & Associations, 2014). In terms of key numbers, in 2014 the pharmaceutical industry generated a total global revenue of 1,057 billion US dollars as well as global sales of 903 billion US dollars (Statista, 2015). Overall it has been estimated that the pharmaceutical market is worth 300 billion US dollars per year (WHO, 2016) and that the economic strength of the industry in 2011 could be compared to the GDP of Argentina. This comparison gives an idea about the importance and powerfulness of the sector for the global economy (International Federation of Pharmaceutical Manufacturers & Associations, 2014). One-third of this market is controlled by the ten biggest pharmaceutical companies; many of them generating sales around 10 billion US dollars a year and making more than 30% profit margin (WHO, 2016). The five biggest players today that contribute to the values, which are measured by the companies’ prescription sales and R&D spending, are Novartis, Pfizer, Roche, Sanofi, and Merck & Co. respectively (Statista, 2015). The main reason for the prosperous business sectors is reflected in the global spending on medicine, which has increased from 867 billion US dollars in 2010 to a total of 1,414 billion US dollars in 2015 (Statista, 2015).

The industry as a whole is expected to grow even further within the coming years. By 2017 it has been forecasted that the pharmaceutical market will reach nearly 1,200 billion US dollars (International Federation of Pharmaceutical Manufacturers & Associations, 2014). The increase in dollar value of the industry is largely driven by the growth in healthcare spending in the coming years. The total worldwide annual spending is estimated to reach 1.61 trillion US dollar in 2018, which reflects an increase by 6.9% from 2014. More specifically, the global annual spending will

be around 2.4% in Western Europe, 4.9% in North America, 8.1% in Asia and Australia, and 8.7% in the Middle East and Africa (Deloitte Centre for Health Solutions, 2014). Thereby the spending for especially branded pharmaceutical products, which are mainly produced by the above mentioned industry leaders, will increase in 2017 by around 15% from an original 589 billion US dollar in 2012 to a total of 610-624 billion US dollars (International Federation of Pharmaceutical Manufacturers & Associations, 2014).

Hence, we can conclude that the pharmaceutical market is characterized by a substantial global economic impact though generating high sales numbers and profit margins. Further, the industry landscape is characterized by powerful industry leaders that have a substantial impact on the industries' development. From the above mentioned data one can further assume that the future outlook for this industry is positive, as sales numbers are expected to increase and growth is maintained. In recent years however the business model and the focus of to whom to market their products to has changed. In the proceeding paragraphs the paper explains the changes in the business model.

### 3.2 The changing business model

Pharmaceutical companies need to directly interact and consider three independent parties in their business model, namely the payers (i.e. insurance companies, governments), consumers (i.e. patients), and providers (i.e. physicians, pharmacies) (Rollins & Perri, 2014). Each of the three parties have different agendas, leading to often opposing goals which makes it difficult for pharmaceutical companies to establish a generic business model (PWC, n.d.). In the past, pharmaceutical companies have however most commonly focused on a business model that uses direct-to-physician marketing as their main approach to sell their products to the market (Rollmann, Levy, & Fricker, 2014). The focus on the providers consisting of among others hospitals, doctors, and physicians, gives them the main power of determining which medication best meets their patients' needs (Rollins & Perri, 2014). Inevitably, demand in the pharmaceutical industry is thus determined by the providers, making them the main target group of the pharmaceutical industries' market efforts to drive business sales (Manchanda & Honka, 2005).

In recent years however, this business model has slowly started to change. The shift in focus has mainly been driven by the technology changes that have occurred in the industry, leading to more informed and knowledgeable patients (Deloitte Centre for Health Solutions, 2014). The patient of the 21<sup>st</sup> century is due to technological improvements able to find many medical related information online, enabling him or her to communicate with other patients, review medications, and inform themselves about their medical conditions. Patients are hence nowadays considered an active part in the decision making process and are seen as consumers, rather than patients (Deloitte Centre for Health Solutions, 2014).

The implications for pharmaceutical companies are thus to expand their knowledge and market information, to consider the needs and preferences of their consumers. It is expected that each pharmaceutical company is required to collaborate actively with consumers, healthcare payers and providers to meet demand requirements and sustain their business (PWC, n.d.). The greatest indications for this shift can be seen in the developed countries. Here the impact of sales visits to doctors has significantly declined, signaling the decrease in power of healthcare providers (PWC, n.d.). Patients on the other hand are becoming more powerful as their needs and preferences need to be taken into consideration when developing and marketing new products (PWC, n.d.).

The new market situation that has evolved in the past years is therefore a prime example of testing whether the actual shift in the pharmaceutical industry towards a more consumer oriented strategy can also be recognized in the respective companies' business performance figures. The pharmaceutical industry is thus considered to be a good fit in terms of testing the market orientation and objective business performance model. Further, the dependence on research and development activities and continuous innovation (International Federation of Pharmaceutical Manufacturers & Associations, 2014) makes it also possible to draw conclusions on the mediating effects of innovation on the market orientation and business performance link.



## Chapter 4 - Methodology

In the following chapter the methodology of the analysis in the thesis is discussed. The purpose of an extensive discussion of the methodological consideration underpinning the analysis is to secure consistency between the research question, hypotheses and the proceeding analysis in the next chapter.

The chapter therefore starts with a general overview on the research design that is used in this thesis. Afterwards the reasoning for using content analysis is outlined and the specific measurement scales are presented. To establish a solid and consistent measurement, expert interviews and a pilot study are used in the later chapter to secure the appropriateness of the methodology. Last, the full sample specifications are presented. This serves as the main foundation to continue with the subsequent chapter of analysis and results.

## 4.1 Criteria for evaluation

Before going into depth about the different research designs and their ability to align with the research question and the thesis' philosophy, it is important to discuss some of the criteria for the evaluation of business research (Bryman & Bell, 2011). According to Bryman and Bell (2011) three criteria are dominating the world of research, namely reliability, replication and validity. First, reliability concerns the question of whether the study is repeatable or not (Bryman & Bell, 2011). Here an important part of the term repeatability is the degree to which results are consistent across studies following the same methodology (Bryman & Bell, 2011). Second, in close relation to reliability, replication is concerned with the degree to which a study can be replicated. Here the emphasis is on how well the procedures of the methods are described and spelled out. Another important part of the replicability of research studies relates to reliability. Especially, in regards to quantitative studies, it is easier to achieve a reliable conclusion, if the procedures of the study are fully described (Bryman & Bell, 2011).

The last and according to Bryman and Bell (2011) most important criterion for evaluation is the validity of the study. The first noteworthy type of validity is measurement validity. Measurement validity is concerned with whether a measurement developed for a concept actually measures the given concept (Bryman & Bell, 2011). If the measurement validity is low, the findings of the research are questionable. Moreover, the measurement validity affects the reliability of the study. When a measure of a concept is unstable, hence unreliable, it cannot provide valid measures for a given concept (Bryman & Bell, 2011). Reliability is therefore considered a pre-requisite for measurement validity (Bryman & Bell, 2011). The second type of validity is internal validity, which relates to the issue of causality between variables (Bryman & Bell, 2011). This type of validity raises the question whether one can be confident that the independent variable describes a part of the dependable variable's variation (Bryman & Bell, 2011). The third type of validity is the external validity, which is the extend of how the findings can be applied outside this study. Hence the focus is on the generalizability of the study (Bryman & Bell, 2011). A fourth type of validity that is important for the evaluation of research designs is the ecological validity (Bryman & Bell, 2011). Ecological validity concerns whether or not social science findings are applicable in the everyday life of the people researched (Bryman & Bell, 2011). This validity is especially important in situations where experiments or research studies intervene with the natural habitat (Bryman & Bell, 2011). In these situations, the findings can be technologically valid, however it may not represent

the everyday life of the participants (Bryman & Bell, 2011). Ecological invalidity can also occur in the case of self-filling questionnaires as the unnaturalness of answering questions may result in biased answers (Bryman & Bell, 2011). The last and most simple type of validity is face validity (Bryman & Bell, 2011). Face validity relates to the degree to which other people can follow the proposed logics (Bryman & Bell, 2011). These evaluation criteria are further discussed in relation to the upcoming methodological choices and the analysis of the pharmaceutical industry.

## 4.2 Research design

In general, the choice of research design offered determines the framework for gathering and analyzing data (Bryman & Bell, 2011; Malhotra, Birks, & Wills, 2012). The design specifies the details and different aspects of implementing the appropriate research to answer the research question (Malhotra, Birks, & Wills, 2012). Therefore, a good research design ensures that a research project is conducted efficiently and effectively (Malhotra, Birks, & Wills, 2012).

Taken the research question into account and following the research philosophy underlying this thesis, a conclusive research design is considered the most appropriate solution. There are several reasons for this. First, the objective of a conclusive research design is to test and measure specific hypotheses and examine relationships (Malhotra, Birks, & Wills, 2012) which perfectly aligns with the research question of this thesis. Second, in a conclusive research design the information needed is clearly defined and the research process is formal and structured (Malhotra, Birks, & Wills, 2012). Due to the fact that this thesis is following a deductive approach, the a priori hypotheses clearly define the area of interest and therefore the information needed. Further the hypotheses guide the subsequent methodological approach and analysis. Hence, this thesis builds upon a conclusive research design.

A second decision needs to be made in terms of which kind of conclusive research design should be used. Two distinct design types are hereby important to consider, namely causal or descriptive design (Malhotra, Birks, & Wills, 2012). A causal research design implies that the researcher is able to manipulate the independent variable of the study (Malhotra, Birks, & Wills, 2012; Bryman & Bell, 2011). He or she is therefore able to investigate how the independent variable affects the dependent variable. This implies that it is possible to manipulate and apply time orders between the

variables (Bryman & Bell, 2011). The causal research design would therefore be the most logical approach to test our hypotheses as it relies on experiments. However, using causal research designs is uncommon in business and management research, as it is often impossible to control the testing environment (Bryman & Bell, 2011). Considering that our thesis is placed in a business setting, we therefore follow the common practice and apply a descriptive research design. The descriptive research design focuses on describing a phenomenon, often market characteristics and functions (Malhotra, Birks, & Wills, 2012).

Of the two different descriptive research designs this thesis follows the cross-sectional research design. A cross-sectional research design focuses on variations between elements, leading to three important implications for the study and its validity. First, more than one case is needed in order to ensure variation in a research study (Bryman & Bell, 2011). Thus researchers usually use a number of cases to increase the chances of variation within given variables (Bryman & Bell, 2011). Second, quantitative or quantifiable data are most appropriate to measure the variation between cases (Bryman & Bell, 2011). This is due to the fact that quantification of data provides the researcher a benchmark and makes it systematic and standardized (Bryman & Bell, 2011). Third, data is collected at a single point of time (Bryman & Bell, 2011) implying that there is no time ordering in the variables. The certainty of a causal relationship is hence lower compared to the causal research design (Bryman & Bell, 2011). The cross-sectional research design can however claim relationships between variables (Bryman & Bell, 2011). These relationships can, according to Bryman and Bell (2011), be used to make inferences about causal relationships which after all rarely have the same credibility as experiments. Hence, it is common that studies of this kind lack the internal validity offered by the experiments.

Besides the questionable internal validity, following a cross-sectional research design usually results in low ecological validity. This is due to the fact that questionnaires are usually the main source of empirical data (Bryman & Bell, 2011). Despite the lower internal validity, a cross sectional research design has several advantages in regards to evaluation criteria. Usually a high degree of replicability is given, as long as research procedures are clearly outlined (Bryman & Bell, 2011). Furthermore, strong external validity can be assured whenever the sampling procedures align with the requirements for random sampling (Bryman & Bell, 2011). Therefore, despite some

limitations, the cross-sectional research design is considered to serve the purpose of this paper and the research question.

### 4.3 Data Generation

After having described the research design, the empirical data generation needs to be considered (Bryman & Bell, 2011; Malhotra, Birks, & Wills, 2012). Several different approaches exist in order to generate data for cross-sectional research designs. The following paragraphs therefore describe and argue for the most suitable data generation methods for this thesis.

#### 4.3.1 Quantitative Approach

The nature of the empirical data in this study is quantitative. The choice of quantitative data offers several advantages in relation to the purpose of this research. First, the quantitative tradition is characterized by following a deductive research strategy, where the main focus is on testing hypotheses (Bryman & Bell, 2011). Second, the norms and practices within the quantitative research traditions are incorporated in scientific research, namely positivism. As discussed in the introduction, this paper follows a critical realistic approach, sharing similar assumptions with the positivistic philosophy (Bryman & Bell, 2011). Lastly, quantitative research traditions mainly build on the assumption of social realities, as an external and objective reality exists independent of the researcher (Bryman & Bell, 2011).

Following a quantitative research design has however several negative implications for the thesis. First, people and institutions are studied outside of their usual environment, leading to the possibility of neglecting important parts of the social environments they are usually surrounded by (Bryman & Bell, 2011). Second, the sense of precision in the process of measuring and quantifying is considered artificial. This criticism is two-fold. One argument is that the connection between the measurements and the social behavior that is intended to be measured is assumed instead of being real (Bryman & Bell, 2011). Second, an assumption is made that the individuals of a sample (e.g. respondents to a questionnaire) interpret given questions in a similar manner (Bryman & Bell, 2011). According to Bryman and Bell (2011), individuals however rarely interpret questions the same way, leading to a lack of accuracy. The third criticism is related to the fact that quantitative research usually concerns with the administration of research instruments and procedures. These

instruments are criticized for hindering the connection between research and everyday life, hence negatively impact the ecological validity (Bryman & Bell, 2011). The fundamental part of this criticism is that respondents might not have the required knowledge or are not affected in their every day life by the research topic in question and are hence not able to respond to the asked questions in a valid manner (Bryman & Bell, 2011). The last criticism is that the research of relationships between variables creates a static view of the world. It is therefore not considering the different views that individuals have on the world, thereby separating the world from the individuals creating it (Bryman & Bell, 2011).

The four above discussed criticisms clearly arise from different philosophies of science, namely interpretivist thoughts. These thoughts focus mainly on the study of meanings surrounding the individuals in research. However, this thesis does not focus on the underlying meaning behind market orientation, but rather the objective relations between two variables. Aligning with the philosophy of this thesis we therefore build the analysis on quantitative data sources, despite the above criticisms.

#### 4.3.2 Secondary Data

This thesis mainly uses secondary data sources. This decision has several implications for the subsequent analysis and the way the research question is answered. In the upcoming paragraphs these implications are discussed, especially reflecting on the choice of using secondary data.

The main characteristic of secondary data is that it is collected for another purpose than the one at hand (Malhotra, Birks, & Wills, 2012). Based on this characteristic the disadvantages of secondary data seem straightforward, namely that the relevance and accuracy is limited. More specifically this means, that the objective and methods of the data that is used may not be appropriate and current in the new research setting (Malhotra, Birks, & Wills, 2012). Building further upon the literature review, the two main research streams have also resulted in two validated scales, one developed by Narver and Slater (1990) and one by Kohli, Jaworski and Kumar (1993). In most of the research studies, both scales require the generation of primary data obtained from questionnaires in order to measure the constructs (Jaworski & Kohli, 1993; Narver & Slater, 1990). By using secondary data, the possibility of generating data from questionnaires is however limited. Hence some of the methodological requirements underlying the theoretical foundations are violated in this thesis. The

acceptance of this violation is grounded in the advantages of using secondary data. Specifically, three advantages speak in favor of basing this study on secondary data.

First, secondary data is easily accessible, as most of the data is publicly available (Malhotra, Birks, & Wills, 2012). Second, secondary data is usually considered to be inexpensive compared to collecting primary data. In the case of interviews or questionnaires respondents often expect some kind of payment for participating in the study, leading to an increase in costs (Malhotra, Birks, & Wills, 2012). Last, secondary data can be obtained quicker (Malhotra, Birks, & Wills, 2012). This factor is important in the case of this study, as the appropriate targeted respondents of the pharmaceutical institutions would be the top management of the organizations. It is however expected that the access to the respondents is limited (Morris, 1994). Hence, obtaining the necessary data in order to draw statistical inferences is too time-consuming, given the scope of the study. The decision of using secondary data, therefore builds on the assumption that the trade-off of a larger amount of respondents is better compared to collecting primary data.

#### 4.4 Content analysis methodology

One of the tools that allow information to be generated from social groups, which are hard to access, is content analysis (Bryman & Bell, 2011; Holsti, 1969; Barelson, 1952; Krippendorff, 2013). One definition is given by Barelson (1952, p.18) who defines content analysis as “*a research technique for the objective, systematic and quantitative description of the manifest content of communication*”. Another very similar definition of content analysis has been formulated by Holsti (1969, p.14) who describes it as a “*technique for making inferences by objectively and systematically identifying specified characteristics of messages*”. In strategic management, content analysis has been widely used to explore a wide variety of strategic topics, including corporate strategy and risk-taking behavior (Bowman, 1984), strategic groups (Osborne, Stubbart, & Ramaprasad, 2001), impression management (Arndt & Bigelow, 2000), downsizing (Palmer, Kabanoff, & Dunford, 1997), organizational values (Kabanoff, Waldersee, & Cohen, 1995), negative organizational outcomes (Abrahamson & Park, 1994), corporate crises (Marcus & Goodman, 1991), corporate reputation (Fombrun & Shanley, 1990), strategy reformulation (Huff, 1982), concerns of business communities (Myers & Kessler, 1980), CEO successions (Osborn, Jauch, Martin, & Glueck, 1981), and even content analysis of the content analyses (Duriau, Reger,

& Pfarrer, 2007). From these two definitions and the existing research using this methodology it is clear that content analysis offers techniques which can generate valuable empirical data to this study without compromising the research design or underlying philosophy. In the context of this study, conducting a content analysis offers several specific advantages.

First, the use of content analysis offers a systematic and standardized method of generating data where rules are clearly specified prior to the actual analysis of the text and messages (Bryman & Bell, 2011; Krippendorff, 2013). This standardization of the procedures aligns with the requirement of the necessary quantification in cross-sectional research designs. Second, the clearly specified rules lead to objectivity through the transparency of the procedures for assigning text to categories. The analysis therefore is not based on the subjective meaning of the researcher (Bryman & Bell, 2011). The establishment of clear and objective rules therefore implies that any given analyst should be able to obtain the same result. Hence, by using content analysis to generate data replicability is high, which satisfies one of the above mentioned evaluation criteria (Carley, 1997; Huff, 1990; Kabanoff B. , 1996).

Besides the two advantages of standardization and objectivity, content analysis offers another important advantage. It is often referred to as an unobtrusive method where the participant in the study does not need to take the researchers into account (Woodrum, 1984; Bryman & Bell, 2011). Content analysis is therefore termed a non-reactive study (Berr, Stimpert , & Huff, 1992). By being able to gather data without interrupting the everyday life of the participant, it is expected that we can limit the social desirability bias, which would have been a source of error in the measurement (Bryman & Bell, 2011). Hence, in the light of our research philosophy, where we accept the world as existing independent of this study, we expect that a content analysis gathers more objective data compared to other methods.

#### 4.4.1 Critical remarks on content analysis

Content analysis does, like every other method, implicate some criticisms that need to be addressed. Specifically, four criticisms are important to address, namely (1) the challenges of answering the “why” question, (2) the theoretical foundation of content analysis, (3) difficulties of building objective coding manuals, and (4) the nature of the documents.



Then first criticism concerns the challenges of answering “why” something has been said or written (Bryman & Bell, 2011). One of the studies that has faced this challenge was in a research conducted by Barley, Meyer, and Gash (1998). By using content analysis, they discover that over the course of nearly a decade academic papers slowly accommodate the more practitioner-oriented papers on organizational culture. They are however not able to make any claims on why this has happened. Possible reasons for why this has happened are hence only speculative in nature and cannot be answered with certainty (Barley, Meyer, & Gash, 1988). In this research study, we are interested in measuring the existence of relationships, rather than investigating why they exist. Hence, this criticism does not pose a serious challenge for this research.

The second criticism of the theoretical foundation, builds on the argument that content analysis is atheoretical in nature, due to its emphasis on measuring (Bryman & Bell, 2011). Logically, the focus is therefore on what is measurable instead of what is theoretically interesting (Bryman & Bell, 2011). Several studies have overcome this problem by building their research on theories such as a political perspective of knowledge creation and diffusion (Barley, Meyer, & Gash, 1988; Bryman & Bell, 2011) or the development in modes of workplace organizations (Hodson, 1996; Bryman & Bell, 2011). This study addresses this challenge through the deductive research approach where the hypotheses are derived from a theoretical foundation, hence the attention of the measurement is based on existing literature on market orientation.

The third criticism that needs to be addressed is the fact that it is almost impossible to create a coding manual that fully corresponds to the intended meaning of the material under investigation (Bryman & Bell, 2011). The reason for this is that the coders draw upon their everyday knowhow in the culture they are a part of when coding. The same applies to the author of the text, who possibly attached a different meaning to the material that is being investigated. Considering that both the coder and the authors exist in their own cultures, one can question the correlation between the meaning of the author and the coders. In this thesis, we account for this challenge by providing an index that offers examples to clarify the meaning of the codes. The misalignment between the coders and the authors interpretations of the material can however not fully be eliminated.

Lastly, as content analysis concerns the analysis and interpretation of text, the quality of the analysis can only be as good as the actual texts under investigation. John Scott proposed in 1990

four criteria to assess the quality of documents, namely authenticity, meaningfulness, credibility and representativeness (Bryman & Bell, 2011). These criteria are according to Bryman and Bell (2011) especially important when content analysis is conducted on documents such as company reports. In order to address this criticism, the four criteria are discussed in relation the selection of documents in forthcoming paragraphs.

In summary, content analysis offers some criticisms and limitations. By however actively addressing these challenges throughout the development of the research methodology, the advantages outweigh the limitations. Hence, content analysis offers valuable insights when answering the research question at hand and is used in our methodological approach.

#### 4.4.2 Selection of documents

One of the most important critical points of content analysis is the selection of documents. This is mainly due to the relation between the quality of the text and the analysis (Bryman & Bell, 2011). Hence, in the upcoming paragraphs a discussion of the choices made clarify the document selection.

According to Bryman and Bell (2011), the use of organizational documents is of special interest for business and management studies as there is a vast quantity of information available within organizations. They further argue that there are two types of organizational documents, namely public-domain documents and internal documents (Bryman & Bell, 2011). Especially internal documents can be valuable in obtaining background information for a case study. However, most researchers experience difficulties in getting access to organizations and internal data. As it is mentioned above, the interest of this thesis lies in measuring variance between cases. Hence, internal information is needed for a large number of organizations. Obtaining information from a high number of organizations would hence be very time-consuming, if not impossible. It has therefore been decided that the empirical data consists of publicly available documents.

Several different kinds of so-called public domain documents have been used in relation to financial and organizational performance data, such as mission statements (David, 1989; Pearce & David, 1987; Cochran & David, 1986) or corporate disclosures in annual reports (McConell, Haslem, & Gibson, 1986; Bühner & Möller, 1985; Ingram & Frazier, 1983). For this study we follow the approach of other researchers and use the letters to shareholders in annual reports (Bowman, 1984;

D'Aveni & MacMillan, 1990; Kabanoff, Waldersee, & Cohen, 1995; Bettman & Weitz, 1983). When using public documents one needs to be aware of several critical remarks. Referring back to the four mentioned criteria introduced by John Scott (Bryman & Bell, 2011), the following paragraphs now discuss how these remarks are addressed in the thesis.

The first two points address the authenticity and meaningfulness of the public documents. Publicly sourced documents sometimes suffer from low authenticity and meaningfulness, because the source might not be reliable. Using however material from private companies, authenticity and meaningfulness are expected to be higher, because they are clear and comprehensive for the researcher (Bryman & Bell, 2011). Despite the advantage of increasing the degree of authenticity and meaningfulness when using private company data, the third and fourth criticism that according to John Scott remain are credibility and representativeness (Bryman & Bell, 2011). Considering that documents, such as annual reports, are written by internal individuals, most likely management, they are likely to have a particular point of view (Bryman & Bell, 2011; Abrahamson & Hambrick, 1997; Clapham & Schwenk, 1991). According to Bryman and Bell (2011), the opinions in the annual report would therefore not be an accurate representation of how different organizational members perceive a situation. In other words the meanings expressed throughout the documents might depend on different groupings in the respective organizations (Bryman & Bell, 2011). Based on this relationship, Bryman and Bell (2011) therefore argue that public organizational documents cannot be used to provide objective insights into the current state of the organization.

Despite Bryman and Bell's (2011) criticism, several researchers have argued for the use of annual reports as an empirical foundation of managerial structures (Huff, 1990; Bowman, 1984). In a study of corporate strategy and risk, Bowman (1984) investigates annual reports from three different industries, namely food processing, computer peripherals and container. Bowman (1984) finds that annual reports provide a valid measure of what is happening within organizations. As he describes: *"Both tests of annual report content analysis — each with a different topic, different industries, different external reality sources, and a different statistical test — suggest that annual report discussion, line-by-line, is a reasonable surrogate for real activity. Clearly a sizable sample, such as several dozen companies, is more reliable than one or two"* (Bowman, 1984, p.64). This argument clearly opposes the argument made by Bryman and Bell (2011), by proposing that content analysis of annual reports can be real and useful in understanding corporate strategy (Bowman,

1984). Bowman further argues that content analysis of especially annual reports can be used to investigate the changes in current industries and whether it correlates with performance (Bowman, 1984).

The use of content analysis is further supported by Kabanoff, Waldersee and Cohen (1995). In a study of 88 large Australian companies they use content analysis of annual reports to cluster exposed organizational values into segments which were compared to the description of change activities (Kabanoff, Waldersee, & Cohen, 1995). The underlying assumption of using content analysis in their study is that *"organizations leave traces of their distinctive value patterns in their documents and that these traces can be observed and measured"* (Kabanoff, Waldersee & Cohen, 1995:1079). Kabanoff, Waldersee and Cohen (1995) further base their study on annual reports as they are concerned with organizational values instead of individual ones. The problem of credibility is hereby specifically addressed in the paper, hence they do not neglect the influence of individuals on annual reports. Further, they account for the fact that the opinions in the annual reports only reflect a specific group of the organization, by stating that *"annual reports are clearly likely to represent the value consensus among an organization's senior managers more than the personal values of individuals"* (1995:1081). Thus, they assume that there is a consensus between different individuals, hence the expressed values can be understood as the organizational opinions (Kabanoff, Waldersee, & Cohen, 1995).

Whereas Kabanoff, Waldersee and Cohen (1995) focus on a broad range of different kinds of documents from the annual report, we follow the approach taken by D'Aveni and MacMillan (1990) and Bettman and Weitz (1983), who only use the letter to shareholders. D'Aveni and MacMillan (1990) support the arguments in favor of using annual reports and further argue that especially letters to shareholders are appropriate to indicate both organizational managers' and organizational members's perception. This is due to the fact that letters to shareholders are a product of many individuals' opinions (D'Aveni & MacMillan, 1990). Furthermore, letters to shareholders are considered the most standardized part of the annual reports (Bettman & Weitz, 1983), which aligns with the characteristics of a cross-sectional research design (Bryman & Bell, 2011).

By following existing literature and using letters to shareholders, they give us important insights into the opinions of the management of pharmaceutical companies which would have been difficult to obtain through a questionnaire. After choosing the method for generating data, the next step is to establish an understanding of the population and build the sample of the thesis.

#### 4.5 Population and sampling

The purpose of most business research studies is to make assumptions about the population that has been classified. In order to collect data from a given population, either a sample or census is needed. Whereas a census is a complete list of the entire population, a sample only includes a small subgroup of the population (Malhotra, Birks, & Wills, 2012). Considering the short time frame of this study, a sample is most appropriate. Following the recommendations of Malhotra, Birks and Wills (2012) the sampling design process is discussed in the subsequent paragraphs.

In order to only include relevant participants in a study, it is important for researchers to clearly define its population (Malhotra, Birks, & Wills, 2012). Thereby it is assured that all participants are valuable for the research at hand. Generally, a target population needs to be defined based on elements, sampling units, extend and time. As it has been described in the introduction, the empirical study is set in the pharmaceutical industry. In this case, all pharmaceutical companies are the elements which contain the information sought after (Malhotra, Birks, & Wills, 2012). As we are able to also use pharmaceutical companies as the sampling unit, the elements and units are the same (Malhotra, Birks, & Wills, 2012).

In regard to the extent of the population, the research design and choice of data impose several boundaries. First, the company logically has to be characterized as a pharmaceutical or biotechnology company in order to contain the required information of the pharmaceutical industry. Second, due to the decision of making content analysis by using letters to shareholders, the population needs to publish this document. This is assured by only using companies that are listed on the stock exchange, because they are expected to at least annually report their financial and managerial company situation. The population is therefore further limited to pharmaceutical companies listed on the stock exchange.

Third, in order to create a more homogeneous population, two criteria in terms of the country of origin have been made. As governments are playing an important role in the value creation of pharmaceutical companies they need to be addressed when deciding upon the boundaries of a population. The government's role in the industry is twofold; first, they act as regulators in the market, second they are consumers which directly buy products from pharmaceutical companies (Lichtenberg, 2004). The government hence tries to control innovation processes and outcomes to positively influence their role in the value chain (Lichtenberg, 2004). In this study the population only includes European and United States companies as they work under more or less the same regulatory rules determined by the FDA (Food and Drug Administration) and EMA (European Medicine Agency). Furthermore, the population is limited to countries classified as highly developed countries. This delimitation is made under the assumption that companies operating in equally developed countries are more homogenous compared to companies in less developed countries. Further, the change in the business model has been described in chapter 3 to be most apparent in developed countries. For a short overview of the boundaries of the population, see Table 2. Additionally, as the content analysis offers the possibility of gathering data across time, the sample consists of information collected from the last five business years (2010-2015) of each company.

**TABLE 2**  
**Population Criteria**

Criterion	Reason
They have to be from developed European countries or US	In order to eliminate the institutional differences between the different countries, and thereby create a more homogenous population
They have to be listed on one of the stock exchange.	As the analysis is conducted on the letters to shareholders, the accessibility of these letters is important. Therefore, the population will only focus on pharmaceutical companies listed on the stock exchanges.
The elements have to be categorized as a pharmaceutical or biotechnology companies, hence med-tech will be eliminated.	The business model is considered different, as Med-tech companies are under different regulations. In order to create more homogenous group, this population will only focus on pharmaceutical companies

Source: Authors' creation  
**Table 2:** Population Criteria

In order to get an appropriate sample for the population, a sample frame needs to be established (Malhotra, Birks, & Wills, 2012). In this thesis the sample frame comprises information from the European and United States stock exchange. Furthermore, the list only includes companies which are fulfilling the above mentioned requirements of the population. As we expect the stock exchange to possess valid and exhaustive lists of companies we eliminate sampling error (Malhotra, Birks, & Wills, 2012). After applying the above criteria and adjusting for duplications, the complete sample consists of a total of 503 pharmaceutical companies. For a full list of the sample frame, see Appendix 1.

In terms of the used sampling technique, a traditional sampling approach, without replacement of the sample, is followed. First, a small sample is used for the pilot study; second, the full sample is compiled. The elements selected for the pilot study are therefore not included in the final sample frame. Malhotra, Birks and Wills (2012) further argue for the importance of deciding between a probability and non-probability sampling procedure. This choice should be based on the nature of the research, the variability of the population and the statistical and operational considerations (Malhotra, Birks, & Wills, 2012). As this sample is determined based on generic lists of companies and a random number generator, it is expected that every element has an equal probability of getting selected for the sample. Hence, the sampling procedure aligns with the requirements of probability sampling (Malhotra, Birks, & Wills, 2012). In the upcoming paragraphs the focus is thus solely on the probability sampling techniques and the chosen approach.

In order to secure that each element has an equal probability of getting selected, they have to be selected independently of any other element of the population (Malhotra, Birks, & Wills, 2012). Several techniques are possible in this case. First, a systematic sampling procedure requires the researchers to select a random number and subsequently chose the  $i^{\text{th}}$  element, based on the desired sample size (Malhotra, Birks, & Wills, 2012). Second, the stratified sampling procedure is characterized as a two-step process where the population is split into sub-populations, or strata and element are thereafter selected randomly from each stratum (Malhotra, Birks, & Wills, 2012). Third, cluster sampling technique requires the researchers to divide the population into cluster and subsequently using random sampling for each cluster (Malhotra, Birks, & Wills, 2012).

Despite the advantages of each of the techniques, we continue the sampling procedures with a simple random sample. This is done with the expectation that a simple random sample strategy

ensures generalizability and live up to the assumptions underlying most statistical inferences (Malhotra, Birks, & Wills, 2012). The simple random sample further exclude any biases in our choices of respondents as well as increases the objectivity of the study (Malhotra, Birks, & Wills, 2012).

Next in the process of sampling is the determination of the sample size (Malhotra, Birks, & Wills, 2012). In this study the recommendation posed by Malhotra, Birks and Wills (2012), who argue that for problem solving studies the minimum sample of 200 elements, is followed. In order to obtain a sample size of 200 letters to shareholders, 40 pharmaceutical companies are randomly selected from the sample frame (see Appendix 2 for sample elements). Subsequently, the five latest annual reports are downloaded from their homepage. When randomly selecting the companies the risk of missing annual reports occurs. In this study this is equivalent to the non-respondents of a questionnaire (Malhotra, Birks, & Wills, 2012). When collecting the annual reports, it became evident that several companies were either founded or listed less than five years ago. The final number of elements collected hence was only 175 letters to shareholders instead of the targeted 200. This results in a response rate of 87.5 %.

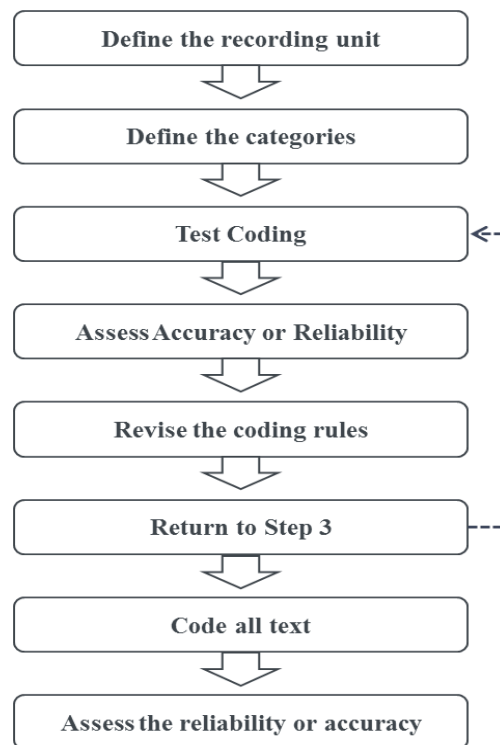
Following the process of Malhotra, Birks and Wills (2012) the last two steps in selecting the sample are a detailed description of the execution of the sample and the validation of the sample. Due to the fact, that the sample is selected by a simple random sampling procedure and the population is based on objective and valid data from stock exchanges, we have the advantage of selecting the sample at one point in time (Malhotra, Birks, & Wills, 2012). This advantage aligns with the characteristics of the cross-sectional research design (Bryman & Bell, 2011; Malhotra, Birks, & Wills, 2012). Further, it ensures a valid sample by only including elements, which live up to the requirements described in Table 2, namely, country of registration, stock exchange listing and industry.

#### 4.6 Content analysis process and protocols

After establishing an understanding of the basic assumptions underlying a content analysis, as well as generating the sample that is used for conducting the analysis, the actual process of a content analysis needs to be discussed. According to Kabanoff (1996), no consensus has yet been established on how to develop coding schedules. However, in a content analysis of organizational content analyses, Duriau, Reger and Pfarrer (2007) find, that the most widely used protocol for



developing coding schemas is the protocol developed by Weber (1990). Following the recommendation of Weber (1990), eight phases need to be taken into consideration when conducting a content analysis. Figure 5 gives an overview of the eight phases.



Source: Weber (1990)

**Figure 5:** Weber's (1990) coding protocols

The eight phases are as follows: (1) First one needs to define the recording unit of you analysis; (2) next the researcher has to define categories, which is the foundation of the analysis of the text. (3) After having decided on the recording units and the categories, it is important that the coding schedule is tested. (4) From the test of the coding schedule, it is important to assess the accuracy or reliability. (5) In the case of unsatisfactory results in phase 4, the categories or units have to be revised. (6) If the coding procedure is revised and modified, the researcher has to return to phase 3 and run another test. This iterative process has to proceed, until the researcher receives satisfactory results from the pilot study. (7) When satisfactory results are achieved in the tests, the researcher can begin to code the entire sample. (8) In the last phase the accuracy and reliability of the complete study is evaluated.

#### 4.6.1 Definition of recording unit

The first phases of building a coding scheme and analysis, concerns with what should be counted. There are six different units of analysis, namely significant actors (Bryman & Bell, 2011), words and sentences (Bryman & Bell, 2011; Weber, 1990), themes (Bryman & Bell, 2011; Weber, 1990), paragraphs, or whole texts (Weber, 1990). The choice of unit of analysis is one of the most important choices to make and needs to align with the research question of the study (Bryman & Bell, 2011; Weber, 1990). In this study, the unit of analysis follows the recommendation of Weber (1990) and focus on counting specific sentences. The decision to have sentences as the unit of analysis further aligns with existing literature using the content analysis method on organizational documents (Kabanoff, Waldersee, & Cohen, 1995; Bettman & Weitz, 1983; Gephart, 1993; Harris H. , 2001).

#### 4.6.2 Defining categories

In the second phase the definition of categories needs to be discussed (Weber, 1990). This phase is crucial for the following research, as it evolves the concept of coding (Bryman & Bell, 2011). When defining the categories of the content analysis, Weber (1990) emphasizes two important considerations that need to be in place before conducting the analysis. First of all, the categories have to be mutually exclusive as most statistical analyses require having no overlap between the variables (Weber, 1990; Bryman & Bell, 2011). This requirement is further supported by Bryman and Bell (2011) who argue that the variables have to be discrete, hence they should be clearly separable in both conceptual and empirical terms (Bryman & Bell, 2011). Second, Weber (1990) argues that it is important to consider how narrow or broad the categories are, because especially too narrowly defined categories might be limited due to the language used (Weber, 1990). This consideration is further discussed in subsequent chapters that explain the creation of the coding manual. Besides the two considerations from Weber (1990), Bryman and Bell (2011) point out the importance of having precise instructions for the coders. By having clear instructions, the replicability of the study is strongly increased especially when external coders are used.

In order to ensure that this study actually counts the right words, the coding manual is built on existing scales. By using already validated scales of the respective constructs, it is expected that this study can maintain a certain degree of construct validity. This is based on the assumption that the

words and terms used within the scales actually reflect the researcher's attribution of the behavior of the specific word or term.

#### **4.6.2.1 Market Orientation – MKTOR Scale**

As discussed in the literature, market orientation is defined as a *“long term commitment to understanding customer needs – both expressed and latent – and to develop innovative solutions that produce superior customer value”* (Narver & Slater, 1998, p.1002). Due to the fact that we are using Narver and Slater's market orientation definition and variables as a foundation in our model, we logically find the use of their scale most appropriate. Narver and Slater (1990) developed a scale based on the construct of market orientation, namely the MKTOR scale. The scale includes 14 items which are designed to represent the three dimensions of market orientation. As the MKTOR scale has been widely used in research of market orientation (e.g. Narver & Slater, 1990; Narver & Slater, 1994; Narver & Slater, 1998) it is the foundation of the coding manual.

Given the fact that the construct of market orientation is comprised of three distinct dimensions and each dimension has its specified items (Narver & Slater, 1990), it can be considered a higher-order construct. This implies that each of the items is able to cause variance in the respective dimension, which can lead to variance in the complete market orientation construct (Narver & Slater, 1990). If for example a respondent rates high on one item, the item makes the respondent more market orientated regardless of other items. Hence, the different items and the respective dimensions have a unique impact on the market orientation of a company. Therefore, the conversion of scales into searchable words is performed under the assumption that each word has the same impact on the final level of market orientation of the companies.

#### **4.6.2.2 Customer Orientation**

The first dimension in the MKTOR scale is customer orientation. This dimension specifically focuses on the organizations understanding of the target buyers and consumers in order to continuously create superior value (Narver & Slater, 1990). Table 3 provides an overview of the items and the respective words that are used in the coding manual.

**TABLE 3**  
**Customer Orientation**

Scale	Words
Our business objectives are driven by customer satisfaction.	Driven by customer(s) / user satisfaction
We monitor our level of commitment and orientation to serving customers' needs.	Monitoring customer(s) / patient(s) / consumer(s) / user(s) needs
Our strategy for competitive advantage is based on our understanding of customer needs	Understanding of customer(s) / patient(s) / consumer(s) / user(s)
Our business strategies are driven by our beliefs about how we can create greater value for customers.	Customer(s) value creation
We measure customer satisfaction systematically and frequently.	Measuring customer(s) / patient(s) / consumer(s) / user(s) satisfaction
We give close attention to after-sales service.	Customer(s) / patient(s) / consumer(s) / user(s) service

Source: Authors' creation  
**Table 3:** Customer Orientation

#### **4.6.2.3 Competitor Orientation**

The second dimension in the MKTOR scale is competitor orientation (Narver & Slater, 1990). The focus of this dimension is specifically on the pharmaceutical company's ability of understanding short-term strengths, weaknesses and long-term capabilities of competitors. Table 4 provides an overview of the selected scales and phrases for the market knowledge dissemination dimension.

**TABLE 4**  
**Competitor Orientation**

Scale	Words
Our salespeople share information within our business concerning competitors' strategies.	Competitor(s) / rival(s) strategy(ies) / information
We respond to competitive actions that threaten us.	Competitive action(s), respond to competitive threat(s) / move(s)
We target customers and customer groups where we have, or can develop, a competitive advantage.	Develop competitive advantage(s)
The top management team regularly discusses competitors' strengths and strategies.	Competitor(s) strength(s) / weakness(es)

Source: Authors' creation  
**Table 4:** Competitor Orientation

#### **4.6.2.4 Interfunctional Coordination**

The third dimension of market orientation is the interfunctional coordination within the organization (Narver & Slater, 1990). Here the focus is on the organization's ability to utilize

internal resources to create superior value for customers (Narver & Slater, 1990). Table 5 displays the scales and words selected for the market responsiveness dimension.

**TABLE 5**  
**Interfunctional Coordination**

Scale	Words
Our top managers from every function visit our current and prospective customers.	Top Management involvement(s)
We communicate information about our successful and unsuccessful customer experiences across all business functions.	Communication Intergroup communication
All of our business functions (eg. Marketing/sales, manufacturing, R&D, finance/accounting, etc.) are integrated in serving the needs of our target markets.	Intergroup collaboration Serving customer needs
All of our managers understand how everyone in our company can contribute to creating customer value.	Collective responsibility(ies)

Source: Authors' creation  
**Table 5:** Interfunctional Coordination

Overall, the conversion of the respective scales into words results in three categories that build the foundation for the subsequent analysis. How the exact value is assigned to the categories is discussed in the upcoming paragraphs on coding rules.

#### 4.6.3 Moderating Factors

Three moderating factors are hypothesized to affect the relationship between market orientation and business performance in this study, namely market turbulence, competitive intensity and technological turbulence. Jaworski and Kohli's (1993) framework first tests these dimensions and has since then been widely used by other researchers (Harris L. , 2001; Pulendran, Speed, & Widing, 2000; Slater & Narver, 1994; Cadogan, Cui, & Li, 2003; Cadogan, Diamantopoulos, & Siguaw, 2002; Gray, Greenley, Mataer, & Matheson, 1999; Rose & Shoham, 2002; Grewal & Tansuhaj, 2001; Appiah-Adu K. , 1998). In order to follow the existing research and the used scales, the words selected for the moderating factors are build on the three dimension proposed by Jaworski and Kohli (1993).

##### 4.6.3.1 Market Turbulence

Market turbulence is the first moderating factor. The scales for market turbulence are originally developed to address the degree of changing customer needs and the resulting consequence for marketing operations (Harris L. , 2001; Jaworski & Kohli, 1993). The main interest is thus on the

perception of changing consumer needs. Table 6 provides an overview of the specific phrases that represents market turbulence.

**TABLE 6**  
**Market Turbulence**

Scale	Words
In our kind of business, customers product preferences changes quite a bit over time	Change in customer(s) / patient(s) / consumer(s) / user(s) preference(s) / need(s) / want(s) / wish(es)
Our customers tend to look for new product all the time	Seek new product(s)
Sometimes our customers are very price-sensitive, but on the other occasions, price is relatively unimportant	Price change(s)
We are witnessing demand for our products and services from customers who never bought them before	New customer(s)
New customers tend to have product-related needs that are different from those of our existing customers	New product demand(s) / need(s)
We cater to many of the same customers that we used to in the past	New customer(s)

Source: Authors' creation  
**Table 6:** Market Turbulence

#### 4.6.3.2 Competitive Intensity

The second moderating factor, the competitive intensity is originally meant to measure the competitive intensity between competitors (Harris L. , 2001; Jaworski & Kohli, 1993). The scales are designed to gauge the resources, behavior and differentiation abilities of competitors (Harris L. , 2001; Jaworski & Kohli, 1993). Table 7 displays the words selected for the competitive intensity.

**TABLE 7**  
**Competitive Intensity**

Scale	Words
Competition in our industry is cutthroat	Fierce / intense / cutthroat / strong competition
There are many "Promotion wars" in our industry	Promotion(s) Price war
Anything that one competitor can offer, others can match readily	Low differentiation Copycat(s) Generic(s)
Price Competition is a hallmark in our industry	Price competition
One hears of a new competitive move almost every day	Competitor moves
Our competitors are relatively weak	Fierce / intense / cutthroat / strong competition

Source: Authors' creation  
**Table 7:** Competitive Intensity

#### 4.6.3.3 Technological Turbulence

The final moderating factor is technological turbulence. This measure was originally developed to measure the degree to which the industry is in a technological flux (Harris L. , 2001; Jaworski &

Kohli, 1993). The focus lies on the degree of technological change and development of the technological environment (Harris L. , 2001; Jaworski & Kohli, 1993). Hence the words for this moderating factor focus on the perception of both internal and external technological development in the industry. Table 8 provides an overview of the words representing the category technological turbulence.

**TABLE 8**  
**Technological Turbulence**

Scale	Words
The technology in our industry is changing rapidly	Change in technology(ies) / R&D / production / manufacturing methods
Technology changes provide big opportunities in our industry	Technological / industrial change(s) / opportunity(ies)
It is very difficult to forecast where the technology in our industry will be in the next 2 to 3 years	Technological / industrial uncertainty(ies)
A large number of new product ideas have been made possible through technological breakthroughs in our industry	Technological / industrial breakthrough(s)
Technological developments in our industry are rather minor.	Technological / industrial development(s)

Source: Authors' creation  
**Table 8:** Technological Turbulence

#### 4.6.4 Innovation Measure and Business Performance

In the hypothesized model two outcomes are expected to be prevalent from the market orientation of companies. Hence two measurements have to be developed in order to test this relationship. First, the measure of innovation has to be determined. Existing research on market orientation and innovation usually measures innovation as a self-completion questionnaire where respondents have to evaluate the innovativeness of the company (Atuahene-Gima K. , 1996). However, as this thesis solely uses publicly available data the evaluation of innovativeness is based on the work of Cordero (1990). He argues that the total innovative performance of an organization needs to be evaluated by using both the input used and the output produced by an organization. Output can further be classified into two distinct groups, namely commercial and technical outputs (Cordero, 1990). For the reason of simplicity, this study only focuses on the technical output of the organizations. The thesis' input measure is annual R&D spending. The number of filed patents within the year of the publication of the letter of shareholder is used as the respective output measure (Cordero, 1990). The final measure for the total innovation performance of the sample companies is determined by calculating the ratio of R&D spending and number of filed patents (Input / Output). The measure hence takes into consideration the differences in budget between the respective sample companies.



In the case of a sample company not filing any patents in one of the respective years, the total R&D costs are used as the value assigned to the variable.

For the performance outcome two methods are prevalent. The performance can either be measured as a subjective assessment through management (Covin, Prescott, & Slevin, 1990; Golden, Doney, Johnson, & Smith, 1995; Govindarajan, 1988) or by using objective financial measures (Chakravarthy, 1986; Cronin & Page, 1988; Venkatraman & Ramanujam, 1986). The subjective measures have been widely used to assess performance in relation to market orientation (Jaworski & Kohli, 1993; Narver & Slater, 1990), however due to the nature of the methodology for generating empirical data this study follows the work of e.g. Hult, Ketchen and Slater (2005) and Pelham and Wilson (1995) and use the return on assets of the organizations (Hult, Ketchen, & Slater, 2005; Pelham & Wilson, 1995).

#### 4.7 Coding rules

After the selection of words several rules have to be determined in order to increase the validity of the study. Following the methodology of existing literature, the coding process complies with manual coding (Vergne, 2012; D'Aveni & MacMillan, 1990) where each coder codes the sentences independent of each other (Duriau, Reger, & Pfarrer, 2007). Throughout the process of coding, each coder reads each sentence separately and thereafter decides if it falls into the category of the coding schema. After reviewing the sentence in relation to the first category, the coder rereads the sentence to determine if the sentence falls into the next category. This process continues until all the sentences have been checked against all categories (D'Aveni & MacMillan, 1990). In this way the coding keeps a simple and sequential dichotomous coding, where the sentence either belongs to a category or not (D'Aveni & MacMillan, 1990).

For every time a sentence falls within a certain category, the value of this category increases by one (Vergne, 2012). The outcome of the coding procedures thus results in a frequency count of sentences. For the simplicity of the coding procedures as well as ensuring a high degree of reliability, the general coding rule is to code only explicit references to the specific categories (D'Aveni & MacMillan, 1990). However following the recommendation by D'Aveni and MacMillan (1990), two exceptions to this general rule were agreed upon. First, every sentence with



an implicit reference to another sentence, which explicitly mentions one of the categories, is treated as a separate mentioning (D'Aveni & MacMillan, 1990). This could be for example the sentences “Competition is tough for us. It pressures our sales”. Here, both sentences would result in a separate count for the word “competition”. Second, whenever a heading of a paragraph refers to a category, all sentences underneath the paragraph are counted to the respective category (D'Aveni & MacMillan, 1990). This is adhered to irrespective of the relevance of the exact sentences (D'Aveni & MacMillan, 1990).

## 4.8 Pilot testing

Following the protocols of Weber (1990), the third phase consists of test coding a small sample text. In order to improve the validity and reliability of this thesis, the testing procedure however has been decided to be more comprehensive than the one suggested by Weber (1990). Specifically, the pilot testing comprises two separate but interdependent phases. First, a qualitative refinement of the research models. Second, the refined model and coding manual are tested in a coding setting to test for inter-coder reliability.

### 4.8.1 Qualitative refinement of model

The market orientation model derived in the literature review can be described as a conceptual model in the case of this study as the foundation of the model builds upon results obtained through other research papers. Two industry experts are therefore interviewed in order to test the face validity of the thesis model. Further, the experts challenge the assumptions underlying the theoretical model as well as place it into the pharmaceutical context.

The goals of the interviews are thus twofold. First, the interview openly explores the perceptions of market orientation, performance, and the factors, which might moderate the relationship between market orientation and performance. Second, the interview tests the face validity of the construct, which has been derived from the literature review.

### 4.8.2 Methodology

The experts for this pilot study are selected based on their professions in the pharmaceutical industry. The main criterion is that the interviewee has to be in a management position within a pharmaceutical company, making a snowball sample procedure most appropriate. The starting point of the snowball is taken from the researchers' existing network within the pharmaceutical industry. In total 2 interviews have been conducted with industry experts. See Appendix 3 for the participants list.

As the goals of the interviews entail both exploratory and confirmatory characteristics, a qualitative semi-structured interview is followed (Bryman & Bell, 2011). A semi-structured interview emphasizes that the interviewer follows a predetermined interview guide, but the interviewee has still a great deal of flexibility in his or her response (Bryman & Bell, 2011). By using a semi-

structured interview, a more exploratory path can initially be followed, before the discussion turns to the thesis' model. See Appendix 4 for the complete interview guide used for the expert interviews.

### 4.8.3 Outcomes from expert interviews

#### 4.8.3.1 Exploratory Outcomes

As a starting point for all the interviews the interviewee is asked: “What comes to your mind when you think about market orientation in the pharmaceutical industry and how do you perceive it in relation to the performance of an organization?” The intention of the question is to force the interviewee to elaborate on his or her intuitive interpretation of the subject. All the answers that were received from the interviewees indicate a clear tendency in supporting the propositions and logics proposed by the initial thesis models.

#### 4.8.3.2 Face validity of the Market Orientation – Performance Model

Based on the interviews with the industry experts it becomes clear, that the perception of market orientation is highly subjective which is reflected in the different opinions in the given answers. One industry expert does not have an exact understanding or meaning of the concept. As he states: “*everybody has a term for everything*” (Expert 1, 2016). Despite the limited perception of the complete framework of market orientation, expert 1 characterizes market orientation basically as an orientation towards the customer. However, as he puts it, “*the customer is not just the consumer. That is where it starts to be complicated in [the] pharma[ceutical industry]*” (Expert 1, 2016). This argument is further supported by the second expert that was interviewed (Expert 2, 2016). Moreover, throughout the interviews the separation of the value chain into consumers, payers and prescribers is further emphasized by both experts (Expert 1, 2016; Expert 2, 2016). This clearly indicates the complexity of the pharmaceutical industry where many different decision-makers need to be addressed to market the end-product.

Focusing specifically on the patients and the concept of patient centricity by means of market orientation, there seems to be a disagreement between the experts. Expert 2 perceives the industry trend as an important part of the future development of the pharmaceutical industry (Expert 2, 2016). As expert 2 argues, “*when you are the patient what you really want, is often not the actual drug*” (Authors translation) (Expert 2, 2016). He describes patient centricity and market orientation as a company's obligation to acknowledge and realize that patients do not only want to receive help

by getting a prescription when being sick. Patients often wish to receive additional help in the form of for example information from their doctors. The new technological development in today's business environment enables pharmaceutical companies to support patients in a new way, making it possible for companies to achieve a higher degree of patient centricity and market orientation. Opposed to this argument of the importance of pharmaceutical companies being market oriented, expert 1 sees a higher importance in the changing legislations of the current pharmaceutical industry (Expert 1, 2016). He argues: *"legislation changes in pharma have led us to think differently of the type of advertising we can use"* (Expert 1, 2016). Hence, he says that the increasing focus on the patients is a product of the changing legislations and not a specific strategic move. He further states that *"patient centric is just a nice word, it is not rocket science, it is important, it makes sense, it makes it a bit more human what we do. Is that the biggest change that is out there? I don't think so"* (Expert 1, 2016). Despite the critics towards the relevance of the patient-centricity, expert 1 acknowledges that specifically technological developments have made the patients increasingly knowledgeable, which ultimately led to them playing a bigger part in the decision-making process (Expert 1, 2016). He states: *"Everyone is having an opinion and can have an opinion because Google will tell them what to think"* (Expert 1, 2016). From the initial discussion of the market orientation it is clear that, despite the increasing interest in the concept, no common perceptions of the importance of market orientation and how it affects the pharmaceutical companies exists.

Following the initial discussion on market orientation, the hypothesized relationship between market orientation and business performance is discussed with the experts. Specifically, the experts have to clarify whether they believe there is a clear relationship between the two variables. Focusing on the ability to advertise directly to consumers, expert 1 clearly states that the company has experienced a positive effect on the business performance through direct campaigns. However, this effect has only been prevalent in the United States. A reason for these differences should, once again, be found in legislations. As expert 1 argues: *"The patients are obviously less knowledgeable, so in some ways they can be influenced, but it is very hard to steer branded content to the patients...I'm not sure if that has a major impact on the performance, to be honest. Not in countries where there has been no change in legislation"* (Expert 1, 2016). In regards to the effects of market orientation on innovation, expert 1 only considers market orientation and closeness to consumers to affect pharmaceutical companies' capabilities of identifying unmet needs in niche markets (Expert 1, 2016).

The third part of the interviews concerns the hypothesized moderating factors. First market turbulence is confirmed as having a positive effect on the relationship (Expert 1, 2016; Expert 2, 2016). Especially expert 1 emphasizes the importance of being close to consumers when market dynamics and needs are turbulent (Expert 2, 2016). He argues that an understanding of, not only the changing needs in the market, but also the unmet needs is *“very interesting in the current environment where drug discovery is really, really hard”* (Expert 1, 2016). Expert 2 (2016), who claims that the data generated from being market orientation definitely can be used in traditional innovation activities, further supports this argument.

Moreover, the moderating effect of competitive intensity on the market orientation and business performance relationship is confirmed. Specifically the pressure on reimbursement in the pharmaceutical industry is argued to increase the competitive intensity (Expert 1, 2016). Patents are expiring on the biggest selling drugs, leading to an increase in the development of generic drugs (Expert 1, 2016). This is, according to the experts, a reality all pharmaceutical companies are facing at the moment (Expert 2, 2016). Specifically it is stated that *“all the low hanging fruits are already taken, increasing the level of competition”* (Expert 1, 2016). The increased importance of competition requires the pharmaceutical companies to focus on the previously mentioned niche markets in order to continuously innovate and develop. Hence they *“all try to do better market research, become even closer to the patients, even more patients centric”* (Expert 1, 2016) by following the above mentioned unmet needs. As expert 1 phrases it, pharmaceutical companies have to focus on *“not just what physician think patients want, but we need to clarify what the patients want and then translate that into physician language and then make us a very good proposition for payers”*. This is supported by expert 2, who states: *“The payers pay way too much for the drugs and they cannot pay it anymore. ... In reality, they do not know how much patients get out of the treatments. The prices they had agreed upon, is built on laboratory data. However, given that we become better at working directly with the patients and collecting data from them, payers are able to get better access to patient data and hence can better evaluate treatment outcomes”* (Authors translation) (Expert 2, 2016). This gives a clear indication that in competitive markets patient centricity can generate the necessary data to build a compelling value proposition for pharmaceutical companies. The experts therefore argue that competition forces pharmaceutical companies into being closer to patients in order to really understand their unmet needs. This means

that in the presence of high competitive intensity, companies that are able to be more market oriented compared to their competitors, experience higher business performance outcomes.

The experts also confirm the last environmental moderator, namely technological turbulence. Specifically in regards to discovering unmet needs in the marketplace, expert 1 claims that big data will have a great impact on the future of pharmaceutical industry. He argues that “external [to the pharmaceutical companies] there are technological advantages that are helping us looking for treatment and patient characteristics in a whole new way. Big data is one of that, having lots and lots of opportunities” (Expert 1, 2016). Expert 2 further supports the importance of big data, however he strongly argues: “*Especially traditional health care companies cannot take on this burden alone. They are not designed to do it*” (Authors translations) (Expert 2, 2016). These arguments indicate that whenever the technological environment is turbulent, the advantages of pharmaceutical companies of being closer to the patients are smaller. This is grounded in the fact that other technological focused companies, such as for example Google and Apple, have a greater incentive in entering the industry and building on their technological capabilities to offer advanced medical solutions to patients and physicians. This situation is according to expert 1 highly relevant in the current pharmaceutical industry as companies can play a bigger role in health care and compete with the traditional pharmaceutical companies in the future. Hence, in technological turbulent markets companies that focus on technology instead of consumers possess a stronger position, leading to a decrease of objective business performance for the pharmaceutical companies.

#### **4.8.3.3 Summary & Implications**

From the above discussion of the expert interviews it becomes clear, that the face validity of the model has been established to a certain degree. However, some critical remarks need to be highlighted. First, the disagreement on whether market orientation really affects the business performance of pharmaceutical companies clearly emphasizes the need for further research of the proposed relationship in the pharmaceutical context. Moreover, opposing opinions continued when evaluating the relationship between market orientation and innovation, lending support to the relevance for this research. Despite the opposing opinions, the experts understood the underlying logic of the model, hence face validity is established through the two qualitative interviews. This implies, that the theoretical model also makes practical sense and it is therefore maintained throughout the proceeding pilot study and analysis.

#### 4.8.4 Testing the coding manual

After discussing the findings of the qualitative interviews, the coding manual needs to be tested. In order to enhance the quality of a content analysis it is strongly recommended to conduct a pilot study, including an early version of the coding schema (Bryman & Bell, 2011). This enables the researcher to identify potential difficulties in applying the proposed coding schema and further uncovers uncertainties about category applications (Bryman & Bell, 2011). In content analyses, coding reliability might be an additional concern for researchers (Bryman & Bell, 2011). Particularly, two types of reliability are advised to be tested in a pilot study, if the time schedule of the research project allows it. The two tests are inter-coder reliability and intra-coder reliability (Bryman & Bell, 2011). Intra-coder reliability requires coders to code the material over a longer time span. Therefore, the pilot study of this thesis, only includes inter-coder reliability, discussed in the subsequent paragraphs.

The pilot study follows two different methodological processes. Both processes use the same text sample, consistent of three letters to shareholders of the BTG annual reports in 2015, 2014 and 2013. In total the three letters contain 130 sentences, which were coded independently by each researcher.

The first process is concerned with the reliability of the study, because it stresses the inter-coder reliability. Following the recommendation from structural observations, the inter-coder reliability is determined by using Cohen's kappa (Bryman & Bell, 2011). Cohen's kappa is a measure of agreement between two or more raters which results in a coefficient between 0-1. Similar to Cronbach's alpha, the closer the coefficient gets to 1, the higher the agreement or the better the inter-coder reliability (Bryman & Bell, 2011). Cohen's kappa offers a specific advantage over more simple and intuitive measure, such as percentage of agreement, because it takes into consideration the agreements which could have been achieved by chance (Bryman & Bell, 2011).

In line with the full-scale study, each text in the pilot study is treated as an independent variable that needs to be coded according to the coding schema. Whereas the full-scale study results in a frequency count of the categories the pilot study assigns a numerical variable to the elements. The numerical variable hereby depends on the category that the element belongs to. In that way, this pilot study partly follows the procedures of D'Aveni and MacMillan (1990) by treating the

sentences as dichotomous variables; meaning that it either belongs to a category or not. Table 9 provides an overview of the numerical values for each category.

**TABLE 9**  
**Pilot Study Categories**

Numerical Value	Category
1	Customer Orientation
2	Competitor Orientation
3	Interfunctional Coordination
4	Market Turbulence
5	Competition
6	Technological Turbulence
7	None of the above

Source: Authors creation  
**Table 9:** Pilot Study Coding Schema

The pilot study is conducted through an iterative process where Cohen's kappa for each of the annual reports is calculated. This step is followed by a discussion of the respective result, indicating whether the categories align with the selected pilot text. Based on the pilot test, it is evident that the kappa coefficient of the first sample texts is .87. According to Bryman and Bell (2011) the threshold for a very good agreement between coders is higher than .75. A good agreement results in a kappa coefficient between .75 and .60. Based on this threshold, the kappa coefficient of .87 obtained in this pilot study can be classified as a very good agreement between coders (Bryman & Bell, 2011).

Based upon the results of the pilot study, especially the three environmental market factors needed to be adjusted. First, the term technical innovation is included in the category of technological turbulence. Second, whenever the letter to shareholders mentions acquisitions, the sentence is counted into the category market turbulence. This is based on the assumption that acquisitions change market powers, hence also market dynamics. Moreover, whenever the letter to shareholders mentions a growth market it is also categorized as market turbulence. Likewise the second correction, it is assumed that growth markets impose changing needs, thus impose market turbulence. Last, when acquisitions are categorized under market turbulence, strategic partnerships are put into the category of competitor orientation. Companies engaging in strategic partnerships are assumed to either proactively or reactively react to competitor moves.



Having discussed and solved the above mentioned challenges, the test coding proceeds with the remaining two annual reports of the year 2013 and 2014. After coding the last two annual reports the final Cohen's kappa was .919. Hence the adjustments increased the agreement between the coders. For a complete overview of the coded material and the cross-tabulation tables see Appendix 5. Following the threshold given by Bryman and Bell (2011) the coding schedule is therefore considered to have the required level of agreement in order to continue.

Besides testing for inter-coder reliability, the pilot study also aims to improve the inter-coder reliability of the full-scale study by following the procedures of Todd, McKeen and Gallupe (1995). In their research of the evolution of job advertisements they make use of a pilot study before sampling. The purpose for this is to develop an index of sentences for each category. Hence, after having coded each sentence into one of the categories of the dictionary and calculating the inter-coder reliability, an index with the sentences and their respective categories is created. Any discrepancies between the two coders are clarified through negotiation. See Appendix 6 for the full index of sentences and Appendix 7 for an example of the thesis' coding schedule.

#### 4.9 Full Study Inter-Coder Reliability

Having coded the full sample of the study, Weber (1990) argues for the importance of testing the full reliability of the data set as the last phase of the coding protocols. By following the same principles used in the pilot study this is realized by calculating the Kappa coefficients (Weber, 1990; Krippendorff, 2013). However, for the full data set minor changes in the process are made. Instead of evaluating the agreeableness of every sentence, the total frequency count of the variables for each letter to shareholders is used as the unit of analysis. Table 10 provides an overview of the kappa coefficients for the respective variables. For the complete cross-tabulation tables see Appendix 8.

**TABLE 10**  
**Cohen's Kappa Coefficients**

Variable	Coefficient
Customer Orientation	0.980
Competitor Orientation	0.973
Interfunctional Coordination	1.000
Market Turbulence	0.973
Competitive Intensity	0.990
Technological Turbulence	0.986

Source: Authors' calculations  
**Table 10:** Inter-Coder Reliability of Full Study

As it becomes evident in the table above, all coefficients of agreement satisfy the required level of .75. The coded data can therefore be considered reliable. However, in order to eliminate the variables where disagreement was prevalent, the annual report was recoded in cooperation with the two coders. The final value assigned to the variable is therefore determined by the use of negotiation, which ultimately leads to the final dataset used in this study.

## Chapter 5 – Analysis and results

The third chapter of this thesis focuses on the data analysis and the subsequent results that are obtained. First, descriptive statistics of the data are assessed in order to ensure the adequacy of and make first assumptions about the data. Second, the results of the hypotheses testing are presented, elaborating first on the model that predicts the direct relationship of market orientation and subsequently on the model that is concerned with the meditating relationship. In the last part of the analysis the results are summarized. A complete overview of the initially proposed and the actual outcomes are visualized in a table at the end of the chapter. This enables the reader to gain a complete and quick understanding of the results of this study.

All analyses were conducted by using the statistical analysis tool IBM SPSS Statistics 22.

## 5.1 Descriptive Statistics

Before conducting linear regression analysis, the descriptive characteristics of the data set are assessed. Herewith a better understanding of the statistics is obtained, which helps to make first assumptions about the statistical inference of the analysis. The first step to receive basic information on a data set is to take a closer look at the frequency distribution (Malhotra, Birks, & Wills, 2010). When using frequency distribution each variable is assessed individually, resulting in the objective to count the number of responses in a given data set. The responses are then expressed in percentage terms for the respective values (Malhotra, Birks, & Wills, 2010). A frequency distribution is therefore able to determine missing values and the extend of illegitimate responses (Malhotra, Birks, & Wills, 2010). Further, outliers and extreme values can be noticed when performing a frequency distribution. This is going to be especially relevant for the later assumptions that need to be fulfilled before conducting the actual regression analysis. Even though a frequency distribution offers a detailed approach of receiving information about the data set, in this research we only focus on the summarized output of the frequency distribution (Malhotra, Birks, & Wills, 2010). The reason for this is that the extend of the data set is simply too large to make a convenient and meaningful overview of the data. Hence the thesis only looks at the summarized descriptive statistics of the data set.

A complete overview of the descriptive statistics of this research can be found in Table 11. Looking at the first column of the descriptive table, the mean values of the individual variables are listed. The mean represents the average value and is the most often used measurement of central tendency. In terms of the three market orientation variables, customer orientation has the greatest mean with 3.39, followed by competitor orientation with 2.51. Interfunctional coordination has received the lowest mean score of only 1.55. On average, the sample has a total market orientation mean of 7.46.

**TABLE 11**  
**Descriptive Statistics**

	Mean	Std. Dev	Skewness	N
Total Market Orientation	7.46	5.925	1.432	175
Customer Orientation	3.389	3.6148	1.484	175
Competitor Orientation	2.514	2.5593	1.446	175
Interfunctional Coordination	1.554	2.3626	2.928	175
Market Turbulence	3.017	3.6047	2.536	175
Competitive Intensity	0.897	1.5796	2.764	175
Technological Turbulence	2.046	2.5592	3.865	175
Cost pr patents M\$	145.248	727.9718	7.601	175
ROA (%)	-45.3236237940105	95.3355535654439	-3.983	175

Source: Authors' calculation  
**Table 11:** Descriptive Statistics

The three environmental moderators differ even more in their average values. The lowest mean of 0.9 has competitive intensity. Technological turbulence and market turbulence receive a mean of 2.04 and 3.02, respectively. On average the respondents of our sample incorporate a cost per patent of on average of 145.00 MUSD and a return on assets of -45.32 %. Besides the mean value, the standard deviation is used to get information about how much the actual observed values differ from the mean. In this sample it is especially important to highlight that there seems to be a great variance in terms of the cost per patent (SD 727.97) and also the return on asset (SD 95.33). The great variance could reflect the differences that occur due to the diverse firm sizes included in the sample. All other standard deviation values can be found in Table 11.

Another important observation that is important for later assumptions for the regression is the skewness of the distribution of the data. A normal distribution is referred to data, which are distributed in a bell-shaped curve with only a single peak. The degree of skewness thereby refers to the symmetry, or absence of symmetry, of the distribution, with 0 indicating a perfect symmetric distribution (Aczel-Souderpandian, n.d.). In this sample it is interesting to note that all variables, except for the ROA have a positive skewness. The positive skewness values range from 1.432 (Total Market Orientation) until 7.60 (Cost per Patent). A positive skewness indicates a distribution, which leans to the left and is therefore a right-skewed distribution (Aczel-Souderpandian, n.d.).

All values are higher than 1, indicating substantial deviation from the symmetric distribution. The skewness for ROA is negative, implying that the distribution is left-skewed and leans to the right (Aczel-Sounderpandian, n.d.)). The value (-3.98) is also substantially higher than -1, indicating as well as great deviation from the symmetric distribution (GraphPad Software, n.d.). Hence, the data can be assumed to violate the normal distribution assumption, leading to a possible problem when analyzing the data through a regression analysis.

As already mentioned in chapter 2, only 175 elements of 200 targeted were analyzed in the final sample. This was mainly due to the unavailability of data of the given randomly chosen sample companies. However, for the 175 elements a complete analysis of all variables could have been obtained. Hence, the number of cases  $N = [175;175]$  indicates that there is no missing data for any of the variables in the hypothesized model. A complete data set with no missing values can be interpreted as a positive outcome, as a larger sample usually lends greater statistical power to the results of the study (Malhotra, Birks, & Wills, 2010).

## 5.2 Hypothesis testing and results

To test the hypothesized models, a linear regression analyses is conducted. In a simple linear regression, the relationship between two variables  $X$  and  $Y$  is modeled as a straight line (Aczel-Sounderpandian, n.d.). The purpose of a linear regression analysis is to measure whether the independent variable  $X$  explains the variance in the dependent variable  $Y$ . Three distinct assumptions must be considered, before conducting the actual analyses. First, the relationship between  $X$  and  $Y$  is assumed to be linear. Second, the values of the independent variable  $X$  are not random, but fixed. Third, the errors that occur in the model are assumed to be normally distributed, having a mean of 0 and a constant variance. Further the errors are supposed to be uncorrelated.

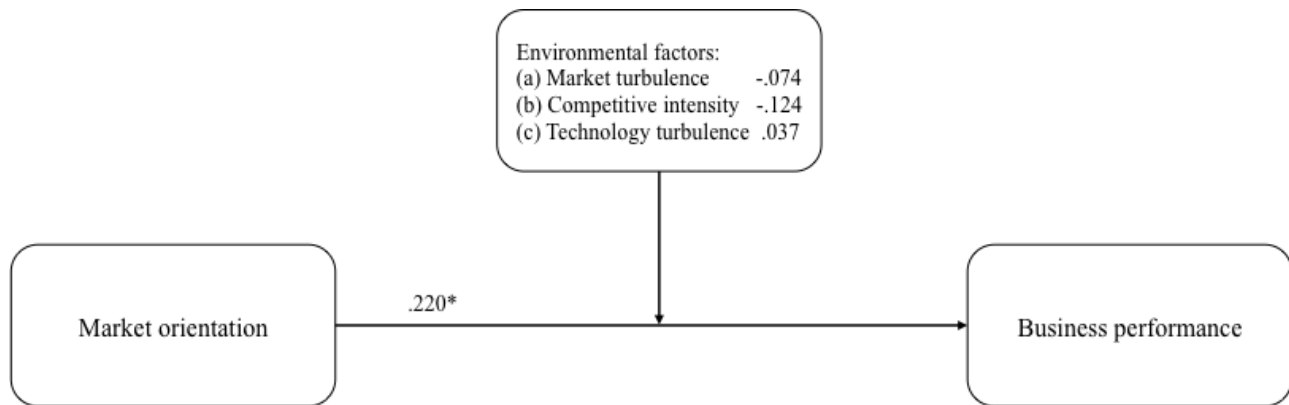
The first assumption has been tested, by inspecting the scatterplot of the independent and dependent variable (see Appendix 9). The outcomes show that this assumption is unsatisfied, which might weaken the validity of the results from the analysis. It is assumed that possible outliers in the dataset might cause the weak linearity in this model. A discussion has evolved around the question of when to eliminate outliers when performing a regression analysis (Schutte & Violette, n.d.). It has been argued that removing outliers leads to the identification of new outliers in the remaining dataset (Schutte & Violette, n.d.). Further, when deleting outliers from the dataset the researcher is

certain that the variable does not contribute to the explanatory ability of the model (Schutte & Violette, n.d.). Taking into account that the data collected in this thesis implies a high reliability and validity it cannot be assumed that outliers do not entail any explanatory power. Hence, the analysis proceeds with the complete dataset. The second assumption has been addressed through the use of the content analysis described in chapter 2. By using strict coding rules and including letters of shareholders, the assumption of fixed independent variables is satisfied. The third assumption however reveals some of the possible violations of the linear regression assumptions in this thesis. As already described in the descriptive statistics part, the assumption of normal distribution is not fulfilled, because the residuals seem to be not normally distributed. Nevertheless, this assumption has been argued to be less relevant when performing linear regression tests (Aczel-Sounderpandian, n.d.). Hence, we proceed with the regression analysis, despite the normality violation. Besides the violation of the normal distribution, correlation between the variables seems to be a problem. By testing for multicollinearity, the results reveal that the three market orientation variables are correlated to each other at the 0.05 level. A correlation measures the linear relationship between the independent variables (Aczel-Sounderpandian, n.d.). If a linear relationship between the variables exists, it is difficult to assess the individual effect of the independent variables on the dependent variable. To counteract this problem, the thesis proceeds with a combined market orientation score, instead of the three individual factors. We are aware of the fact that a multiple regression analysis of separate variables could have possibly shown interesting results in terms of the magnitude of the three individual variables. Nevertheless, we consider it more important to receive meaningful outcomes and make reliable assumptions about the relationship between market orientation and business performance. Hence, the thesis now proceeds with using combined market orientation score and conducting a simple linear regression analysis.

Two models that were developed in chapter 1 need to be tested by using linear regression analyses. The first model depicts the direct link between market orientation and objective business performance, taking into account the moderating factors of the environment. The second model describes the effect on this direct link, when the mediator innovation is taken into account. Due to a high correlation between the three individual market orientation factors, only the total score of market orientation is used, leading to linear regression analyses for both testing the hypothesized relationships. The results of the analyses are presented separately in sections 5.3 and 5.4.

### 5.3 Testing Research Model I

In research model I, the direct link effect of market orientation on objective business performance is hypothesized. Additionally, the model considers the effect of three environmental factors that are hypothesized to moderate the direct link between them. The summarized overview of the regression results is provided in Table 12.



Source: Authors' creation

**Figure 6:** Regression results for Market Orientation – Business Performance model

First, a linear regression analysis is conducted to test the direct effect of market orientation on objective business performance. Number of employees is thereby used as a control variable, to eliminate variances due to the size of the respective sample companies. The results support the hypothesized positive effect of market orientation on objective business performance (H1), as the standardized beta coefficient is 0.22 (significant at  $p < 0.05$ ). In this case, both the F-test ( $F = 6.894$ ), which is concerned with the significance of the whole model, and the t-test ( $t = 2.832$ ), which looks at the individual independent variables are significant ( $p < 0.05$ ;  $p < 0.05$ ). Hence, we consider Hypothesis 1 to be supported.



**TABLE 12**  
**Research Model I**

Variable	Control	Model 1	Model 2	Model 3	Model 4
Market Orientation		0.220* (0.005)	0.222* (.005)	0.267* (.002)	.224* (.005)
Market Orientation*Market Turbulence			-0.074 (0.334)		
Market Orientation*Competitive Intensity				-0.124 (.143)	
Market Orientation*Techological Turbulence					.037 (.621)
<i>Number of Employees</i>	.176* (.020)	0.105 (.177)	0.126 (.120)	0.134 (.095)	.097 (.221)
F	5.543*	6.894*	4.906*	5.349*	4.658*
R2	.031	.074	.079	.086	.076

Standardized Beta (p-values)

\* p<0,05

\*\* p<0,1

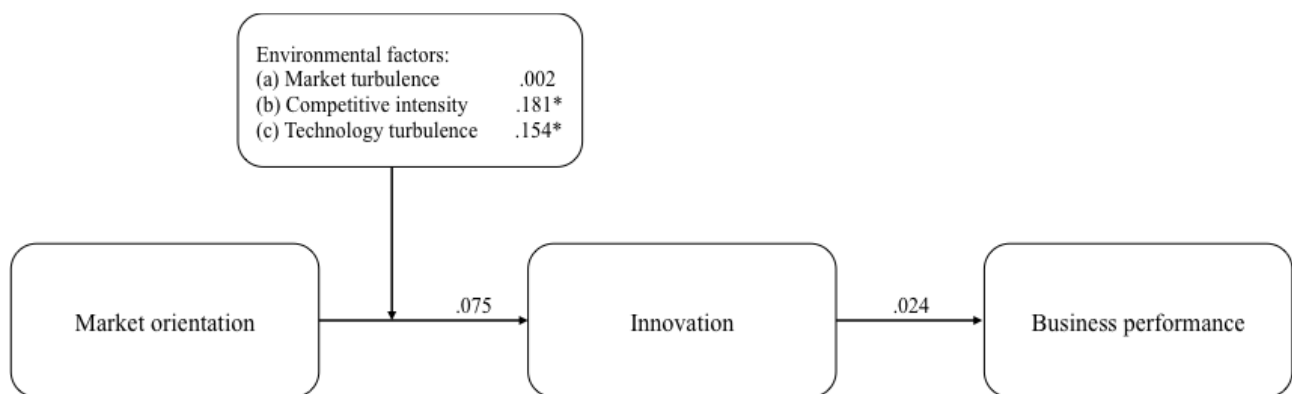
Dependent variable: ROA

Source: Authors' calculation  
Table 12: Regression Table Model I

Second, the three moderating factors are analyzed. The linear regression is performed by incorporating market orientation and the multiplicative interaction variable of market orientation as independent variables. Each moderating effects are tested in a separate regression analysis. As depicted in Table 13, all of the proposed moderators fail to be statistically significant in this model. This is particularly visible when comparing the outcomes of the  $R^2$  between model one ( $R^2 = 0.074$ ), two ( $R^2 = 0.079$ ), three ( $R^2 = 0.086$ ) and four ( $R^2 = 0.076$ ) in Table 12. As the  $R^2$  describes what percentage of the variance in the dependent variable can be accounted for by the independent variables, it becomes evident that none of the moderating models contribute to a significant increase in the variance explained. Additionally, all of the proposed hypothesized moderating variables seem to have an opposite effect to the hypothesized ones. Both market turbulence and competitive intensity were proposed to positively influence the effect of market orientation on objective business performance. The results however indicate a negative effect moderating effect (Std.  $\beta = -0.074$  ; Std.  $\beta = -0.124$ ). Technological turbulence on the other hand was hypothesized to negatively effect the relationship between market orientation and objective business performance. The results however reveal that the moderating effect is presumably positive (Std.  $\beta = 0.037$ ). Due to the opposing and non-significant outcomes, the findings do not support Hypothesis 2 a, b and c. For a complete overview of the statistical output see Appendix 10.

## 5.4 Testing Research Model II

In research model II the mediating effects from innovations on the relationship between market orientation and business performance is hypothesized. More specifically, this model makes two hypotheses claiming relations between market orientation and innovation, as well as innovation and business performance. Second, the moderating factors investigated in research model I are further hypothesized to moderate the relationship between market orientation and innovation. Figure 7 provides an illustration of the research model and the respective regression results.



Source: Authors' creation

**Figure 7:** Regression results for Market Orientation –Innovation – Business Performance model

First the two linear regression analyses are conducted in order to test Hypothesis 3a and 3b. As in research model I, the number of employees is added to the statistical model to eliminate variances due to the size of the respective sample companies. First the results from regression model 1, which depicts the effect of market orientation on cost per patent, rejects the hypothesized positive effects of market orientation on the innovative performance of pharmaceutical companies, as the standardized beta coefficient in this mode is 0.075 ( $p = .291$ ). Moreover, for regression model 1 the t-test ( $t = 1.059$ ) is insignificant. When testing the complete model, the F-test ( $F = 6.894$ ), is however significant. This can be a result of the direct effect of the control variable of number of employees, as this variable seems to have a significant effect on the cost per patent of the pharmaceutical companies. Hence, Hypothesis 3a is not supported in the findings.

In testing Hypothesis 3b, the table below shows, that the beta coefficient of regression model 5, which measures the impact of the cost per patent on ROA, is Std.  $\beta = .024$  ( $p = .781$ ). Moreover, the

independent variable is found insignificant in the t-test (.278). The hypothesized relationship in 3b between cost per patent and the business performance of the companies can therefore be rejected. Just as in research model I, the F-test (2.795), evaluating the significance of the complete model, including the number of employees as well as the cost per patent and ROA variables, is significant. However, it is only significant at  $p < 0.1$ . It is therefore reasonable to argue, that the significance of the model is rather limited.

**TABLE 13**  
**Research Model II**

Variable	Dependent Variable					
	Cost pr. Patent	Cost pr. Patent	Cost pr. Patent	Cost pr. Patent	Cost pr. Patent	ROA
	Control	Model 1	Model 2	Model 3	Model 4	Model 5
Market Orientation		.075 (.291)	.075 (.293)	.007 (.929)	.093 (.191)	
Market Orientation*Market Turbulence			.002 (.974)			
Market Orientation*Competitive Intensity				.181* (.019)		
Market Orientation*Technological Turbulence					.154* (.025)	
Innovation (Cost pr. patent)						.024 (.781)
<i>Number of Employees</i>	.467* (.000)	.443* (.000)	.442* (.000)	.401* (.000)	.410* (.000)	.165 (.053)
F	48.282*	24.719*	16.384*	18.782*	18.593*	2.795
R2	.218	.223	.223	.248	.246	.031
Standardized Beta (p-values)						
* $p < 0,05$						
** $p < 0,1$						

Source: Authors' calculation  
**Table 13:** Regression Table Model II

Second, the three moderating factors are again tested against the linear regression. Following the procedures in research model I, the moderating effects are evaluated by adding the multiplicative effects of the moderators as an independent variable in the linear regression analysis. Each of the moderating effects is tested in separate regressions analyses. Table 13 displays the regression results of the analyses. From the results it becomes evident that all moderating factors fail to support the hypothesized relationships. The  $R^2$  values of the respective models do as such offer better values compared to research model I, varying from 0.218 for the control variables, to 0.248 for model 3, where the relationship is moderated by competitive intensity. However, it is important

to highlight, that a great deal of the variance explained by the independent variables comes from the control variable ( $R^2 = .218$ ). The biggest  $R^2$  change appears in model 3, where competitive intensity moderates the relationship between market orientation and innovation ( $R^2$ : .223 - .248).

Additionally, the results indicate that two of the proposed hypothesized moderating variables have an opposite effect than hypothesized. Both competitive intensity and technological turbulence were proposed to positively influence the effect of market orientation on innovation performance. The results do indicate a significant moderating effect of competitive intensity and technological turbulence (Std.  $\beta = .181$  ; Std.  $\beta = -.154$ ). However, as the measure of innovation is based on the cost per patent, improving the innovative performance would require a negative beta coefficient. Lastly, market turbulence was hypothesized to positively effect the relationship between market orientation and objective business performance. The results reveal that the moderating effect is slightly positive (Std.  $\beta = 0.02$ ) indicating a decrease in innovative performance. Hence, the findings from regression model 2, 3 and 4 do not support Hypothesis 4 a, b and c. For a complete overview of the statistical output see Appendix 11.

## 5.5 Summary of hypotheses

All the findings from the above analyses are summarized in Table 14. Only Hypothesis 1 is supported and Hypotheses 2a, 2b, 2c, 3a, 3b, 4a, 4b and 4c are all rejected. Hypotheses 4b and 4c do show significant outcomes, which however proved to have the opposite effect than hypothesized.

**TABLE 14**  
**Summary of Hypotheses**

Hypothesis	Relationship	Hypothesized	Result	Standardized Beta	T	Sig.
1	Market Orientation -> Business Performance	+	Supported	0.22*	2.832	0.005
2a	Market Turbulence -> Market Orientation-Business Performance	+	Rejected	-0.074	-0.968	0.334
2b	Competitive Intensity -> Market Orientation-Business Performance	+	Rejected	-0.124	-1.472	0.143
2c	Technological Turbulence -> Market Orientation-Business Performance	-	Rejected	0.037	0.469	0.621
3a	Market Orientation -> Innovation	+	Rejected	0.075	1.059	0.291
3b	Innovation -> Business Performance	+	Rejected	0.024	0.278	0.781
4a	Market Turbulence -> Market Orientation-Innovation	+	Rejected	0.002	0.033	0.974
4b	Competitive Intensity -> Market Orientation-Innovation	+	Rejected	0.181*	2.364	0.019
4c	Technological Turbulence -> Market Orientation-Innovation	+	Rejected	0.154*	2.269	0.025

\* p<0,05

\*\* p<0,1

Source: Authors' calculation  
**Table 14:** Summary of Hypotheses

## Chapter 6 - Discussion, implications and conclusion

In this discussion, the main focus is on answering the research question and the two sub-questions that have been proposed in the beginning of the thesis. The discussion is therefore divided in three different parts, one for each of the three questions. The first part of the discussion focuses on the first sub-questions and reflects on the findings that have been made when reviewing the literature on market orientation. The second part of the discussion answers the second sub-question of the thesis, emphasizing the differences and supportive findings of this thesis in comparison to past research studies. In the last part, the main research question is answered.

The discussion therefore builds the foundation of summarizing the overall outcomes and answering the fundamental questions of this study. It further builds the foundation for the subsequent theoretical and managerial implications as well as conclusion.

## 6.1 Discussion

The **first sub-question** that the thesis aims to answer is the question of which conclusions can be drawn from existing literature on the relationship between market orientation and business performance.

The theoretical review presented in the beginning of this thesis showed that the findings in market orientation research have been mixed in the last decades. Especially the influence of the moderating environmental factors in the market orientation and business performance relationships have been questioned since the emergence of the first empirical studies (Kirca, Jayachandran, & Bearden, 2005). Within the last 15 years, studies on market orientation have mainly followed the constructs of either Kohli and Jaworski (1990), Narver and Slater (1990), or used a combined approach of the two. Even though the constructs and elements of the different approaches have been argued to complement each other to a certain extent (Hult, Ketchen, & Slater, 2005), no common agreement has been reached on which construct, scale or measurement technique should be used to lead to a more successful integration of market orientation in businesses. Hence, some of the disagreement that has been discussed in the past research studies may stem from the different scales and constructs used in the empirical research when assessing the direct link between market orientation and business performance. The most contradictions have however not been found in the direct relationship between market orientation and business performance, but rather in the moderating factors that impact the relationship. Non-significant findings often prevail the significant findings, speaking against the intuitive logic but strengthening the assumption of a robust link between market orientation and business performance independent of the surrounding business environment. Further, the fact that market orientation is also still a topic that is being discussed today shows its importance in terms of influencing business strategies and performance outcomes (Herhausen, 2016; Ying-Pin, 2016).

Conclusions that can be drawn from the literature review are therefore twofold. First, the direct relationship between market orientation and business performance is robust and can be assumed to be important for business companies when examining strategic choices. Second, the moderating environmental factors are still prone to situational differences. The generalizability of their significance and impact in varying research settings is therefore not yet established, resulting in the necessity for further research.

In the **second sub-question** the thesis aspires to answer whether the relationship between market orientation and business performance in the existing literature can also be established in the pharmaceutical industry.

The empirical outcomes in this study are mostly consistent with the findings that have been established through existing research. Our findings show that only one out of nine hypotheses show significant and supportive results. The hypothesis that is supported is the one that proposes the direct link between market orientation and business performance outcomes. This is in line with the findings of most of the past research. Hence, the thesis clearly confirms the robustness of the link and the positive influence of market orientation on business performance. Even though the remaining eight hypotheses have not resulted in supported outcomes, in the context of the pharmaceutical industry, they do not necessarily contradict the findings of previous research. As outlined in the beginning of this chapter, past findings have consistently resulted in mixed support for the additional elements that influence the direct link in either a moderating or mediating way. Hence, this thesis confirms the not yet established general impact of the moderating and mediating elements influencing the magnitude of market orientation. Taking also into account that two of the moderating variables are significant in research model II, but have been hypothesized in opposing ways, it is shown that it is difficult to predict environmental influences in market orientation strategies. Further it emphasizes the difficulties of proposing general assumptions, when applying the model to different industry settings. However, we expected to obtain a higher number of significant moderating and mediating variables, as the propositions on the influence of and the choice on the moderating and mediating variables have been based on existing theoretical literature. This should have increased the likelihood of supportive findings in this study.

The conclusion of the second sub-question is thus threefold. First, the direct link between market orientation and business performance outcomes could also be established in the pharmaceutical contacts. Second, the often non-significant and mixed findings on the moderating and mediating variables are also present in the context of the pharmaceutical industry. This confirms the proposed robustness of the direct link and aligns with the contradictory findings that have been found in former studies. Last, the hypothesized impacts of the moderating and mediating variables could however not be established. Our empirical research in the pharmaceutical industry therefore deviates from the empirical outcomes made in other industry sectors.



The main purpose of the thesis is to answer the **overall research question**, of whether there is a relationship between the degree of market orientation and the objective business performance measures in the pharmaceutical industry.

As already mentioned above, the most striking outcome of the study reveals that an actual positive and significant link could be established between market orientation and objective business performance measures. Hence in this industry setting it is confirmed that being market oriented leads to positive effects on return on assets of pharmaceutical companies. This finding is not only important by cause of confirming and aligning with the findings that have been found in theory, but also because it builds the base to highlight the significance of being market oriented for managers in the pharmaceutical industry. The impact on managers and applied business is further discussed in the subsequent paragraph on managerial implications. The market orientation relationship that is prevalent in the pharmaceutical industry is further not affected by any of the three environmental factors that have been proposed. This outcome allows the conclusion that in the pharmaceutical context, the positive effect of market orientation on objective business performance measures is not dependent on neither the market turbulence and competitive intensity, nor the technological turbulence.

In the context of the pharmaceutical industry, innovation also does not seem to mediate the relation between market orientation and business performance. The reasons for this could also be that in pharmaceutical industries, innovation does not seem to be influenced by market orientation and does also not contribute to the return on assets of the company. However, the measurement used in this thesis, namely the cost per patent, limits our conclusion to only this output for innovation. Considering that former studies have usually used interviews and surveys to assess the degree of innovation, cost per patents present a different way of assessment. As cost per patents could possibly not reflect all the innovative outcomes of an organization, the link between the degree of innovation and the measurement may have increased the chances of obtaining non-significant findings.

In the same light, analyzing the relationship of market orientation to business performance outcomes by using content analysis and more specifically letters to shareholders has been a rather new way of analysis. This is on the one hand an additional confirmation, that even though a

different method of analysis has been used, the positive relationship between market orientation and business performance is robust. On the other hand, letters to shareholders could have possibly contributed to the high degree of contradictory findings in this research. The possible impact that this measurement item has on measuring the variables could have been reflected in the results. The disadvantages of deviating from past research methodologies are further discussed in limitations and future research section.

In summary we can confirm that there is a direct positive relationship between the degree of market orientation and the objective business performance measures in the pharmaceutical industry. This direct link is however, in contrast to other former studies, not influenced by external environmental factors or mediated through innovation in the pharmaceutical industry. In this specific context this means that a higher degree of market orientation can lead to higher return on assets, independent of the market turbulence, competitive intensity or technological turbulence. Further, innovation cannot be directly influenced by market orientation, nor does the degree of innovation, measure by cost per patent, directly influence a company's return on assets.

## 6.2 Theoretical Implications

This thesis contributes with its findings to the existing literature and the field of market orientation. Specifically, three contributions can be made: 1) the confirmation of the direct influence of market orientation on business performance, 2) support for the insignificance of environmental factors, and 3) measuring the impact by using content analysis.

The outcomes of this thesis provide support for the hypothesized direct effect of market orientation on business performance. This finding is in line with the general view in the past literature (Kohli & Jaworski, 1990; Narver and Slater, 1990; Kirca, Jayachandran & Bearden, 2005). Thus the thesis adds to the current literature by confirming the current findings in a pharmaceutical industry setting. In case of placing the thesis in the context of the pharmaceutical industry, it adds another industry area to the already researched one. This confirms that the link is stable and can be applied to different industry settings. Further it does not only support the direct link, but also the positive impact of market orientation on objective business performance measure. Hence, the study

emphasizes the importance of engaging in market orientation behaviors for businesses operating in the pharmaceutical industry.

The hypothesized moderating influences of environmental factors and the mediating variable innovation, could however not be supported in the context of the pharmaceutical industry. In the past, contradictory findings have resulted from the numerous studies conducted in the field of market orientation. Early, Kohli and Jaworski (1990) have logically argued for the influence of environmental factors. Nevertheless, many scholars have found contradictory results, among them Slater and Narver (1990). In the meta-analysis of Kirca, Jayachandran and Bearden (2005), the non-significant findings by far outweighed the significant findings for the environmental factors. The mediating effect of innovation has however received great awareness and support in recent years (Wren, Souder, & Berkowitz, 2000). The results of this thesis however imply that the impact of market orientation on business performance does not seem to be influenced by any of the tested moderating or mediating variables. This contributes to the existing literature by confirming the robustness and independence of the link in the context of the pharmaceutical industry.

Even though this thesis could not support the significance of the environmental factors, we still like to shortly elaborate on the influences that were found in the outcomes. All of the three environmental moderators are found to have a contrary influence on the direct relationship between market orientation and objective business performance than originally proposed. It seems to be that in highly turbulent markets and competitive intense settings, the impact of market orientation on objective business performance diminishes instead of increases. Technological turbulence on the other hand enhances the positive impact of market orientation on business performance, instead of decreasing it. These outcomes should be taken into consideration by other researchers when testing the effects of the three moderating environmental factors in the pharmaceutical industry.

Besides the non-supportive outcomes of the moderating and mediating factors, the method of content analysis is another element that contributes to the assumption that the direct link between market orientation and business performance is important, regardless of the method or environmental setting (Slater and Narver, 1994). In previous studies, the main source of data collection is performed through the use of face-to-face interviews (Kohli and Jaworski, 1993; Narver and Slater, 1990). Hence, the new approach of using secondary data and performing a content

analysis contributes to existing literature by showing that the impact of market orientation is also reflected in the companies own public documentation. Thus the robustness that has already been first proposed by Slater and Narver (1994) can be extended from only focusing on the environmental settings to the way of how market orientation implications are reflected in the company.

The above theoretical implications show that even though the topic has been studied for more than a decade, contributions still reveal new insights in this area. In terms of this thesis, we can contribute to existing findings that the direct link can be established in an additional industry setting, specifically the pharmaceutical area. Second, the non-supportive findings in terms of the moderating and mediating factors support the independence and importance for all entities to pursue a market oriented strategy in business. Third, by using content analysis it is showcased that market orientation behavior of companies is also reflected in publicly available data, confirming the robustness of the direct positive link.

### 6.3 Managerial Implications

Besides resulting in theoretical implications the findings of this thesis also pose several managerial implications for the pharmaceutical companies. In the proceeding paragraphs we highlight these implications and offer initial solutions to how pharmaceutical companies can utilize the current situation. The paragraphs focus on three specific implications, namely (1) the necessity of being market oriented in today's pharmaceutical industry, (2) the development of a balanced approach to market orientation, and (3) the possibility to engage in collaborations with external partners.

The first implication which pharmaceutical companies have to address is the fact that firms with a higher degree of market orientation obtain higher objective business performance. This finding is of significant importance for managers who are developing and implementing the strategies of pharmaceutical companies. The top management of pharmaceutical companies should therefore embrace values and engage in strategies that prioritize market orientation to fully utilize the positive impacts of the relationship. By embracing values of market orientation, managers can expect to perform better in terms of objective business measures, leading to an increase in profits and higher value of the company as a whole.

However, focusing solely on the patients is not enough. The second implication for managers concerns the balance of the three different parts of market orientation. In this paper, the analysis builds on Narver and Slater's (1990) framework of market orientation, where customer-focus, competitor-focus and interfunctional coordination compose the main building blocks. This framework requires managers to develop a balanced strategy between the three components in order to realize the full potential of market orientation. In the expert interviews it became clear that most pharmaceutical companies perceive market orientation as mainly focusing on the external factors of the company, with patients gaining significant importance in recent years. However, when looking into some additional analyses of the data underlying this thesis, one can conclude, that all three components contribute to an increased degree of market orientation of pharmaceutical companies (Appendix 12). More surprisingly it is also evident, that competitor-orientation and interfunctional coordination have a greater positive impact on the objective business performance of the pharmaceutical companies, compared to customer-focus. The management of pharmaceutical companies can therefore not expect to increase objective performance by solely focusing on knowledge generation of the patients. Instead, managers are advised to build a more entrepreneurial organizational structure to better react to the knowledge gained in the market place and utilize it throughout the entire organization. Otherwise the full potential of market orientation will not be reached.

The last implication for managers of pharmaceutical companies concerns how managers can achieve the right balance between the respective components of the market orientation framework. Pharmaceutical companies have often been characterized as big and very static companies focusing on R&D and push-strategies where internal innovations are pressured into the market (Expert 2, 2016). The competitive advantages in the pharmaceutical industry have therefore often lied in capitalizing on other resources than the required risk-taking and entrepreneurial culture needed to fully utilize market orientation. In especially research model II it becomes clear that in high competitive intensity and technological turbulence, market orientation has a negative effect on the innovative performance of the pharmaceutical companies. This can be an indication that the traditional pharmaceutical companies are not able to transform the data generated into actual product outcomes. The data might get lost in process optimizations and standard operating procedures. One way pharmaceutical companies are able to overcome this challenge is to engage in strategic partnerships with IT companies, focusing specifically on data generation and transfer.

When collaborating with these partners, pharmaceutical companies are therefore able to focus on the main activities of researching and developing drugs. The IT partners on the other hand are able to generate the data necessary for being innovative, thereby helping pharmaceutical companies to utilize their resources in the most effective way. Moreover, if high quality data is generated, the value proposition of the pharmaceutical companies to its payers improves. This possibly leads to an increase in sales and a direct effect on the objective business performance.

As the above discussion reveals, the pharmaceutical industry is facing great opportunities of increasing objective business performance from being market oriented. In order to fully utilize these opportunities, managers have to make some important decision about the future strategic directions.

#### 6.4 Limitations and further research

As it has been discussed earlier in this chapter, this thesis clearly answers the research questions at hand. However, in order to increase the value of the results, the proceeding paragraphs address some of the limitations which affected the outcomes. Specifically, four possible limitations are being addressed, namely (1) the choice of data source, (2) the measures of the analysis, (3) the moderating factors, and (4) the philosophies underlying the thesis. For each of the four limitations, suggestions for further research are proposed.

The first opportunity for further research concerns the choice of data source. As this thesis mainly consists of secondary data, it is obvious that the purpose of the data used differed from the one of our thesis. This might result in an inaccurate representation of the organizations. In our case, where the data builds on the letters to shareholders, one could argue that the data only represents a single point of view (Abrahamson & Hambrick, 1997; Clapham & Schwenk, 1991). One way of addressing this limitation would logically be to collect primary data directly from the pharmaceutical industry. One way of collecting the necessary data could be to conduct observational studies of the organizational behavior. In this way, the behavior of several organizational members could be detected, leading to a more valid accuracy. In further research this data could then be compared to the existing dataset to compare, whether the companies actually deliver the degree of market orientation they were given in the annual reports.

The second area, that is open for further research concerns the measures used in the thesis. As mentioned earlier, most researchers build their studies on the two scales of Narver and Slater (1990) or Kohli, Jaworski and Kumar (1993). By transforming the validated scales into words for a content analysis, the chance of a decreasing measurement validity is higher. Using the already validated scales in a further study could naturally increase the measurement validity. However, by using the existing scales in questionnaires future research could possibly still suffer from the criticism of only including the opinions of a single individual of an organization.

The third opportunity of future research deals with the research models guiding the analysis. During the development of the hypotheses some limitations needed to be made. Especially in regards to both the moderating and mediating factors delimitations had to be accepted to create boundaries for the research and focus the study on specific and reasonable variables. As the results show only limited effects on the relationships proposed in the used models, other factors such as regulatory settings (Daft, Sormunen, & Parks, 1988), sociocultural factors (Daft, Sormunen, & Parks, 1988), firm resources (Barney, 1991) or dynamic capabilities (Teece, Pisano, & Shuen, 1997) could be included in future research as either moderating or mediating factors. Moreover, in research model II, the moderating factors were only hypothesized to affect the relationship between market orientation and innovation. The potential effects on the relationship between innovation and business performance should also be addressed in further research. Lastly, all moderators were tested separately on the relationship between market orientation and either business performance or innovation. Further research should therefore investigate how the moderators collectively effect the proposed relationships. In this way future research is able to access the relative importance of the moderating factors.

The last limitation, which needs to be addressed by future research studies, concerns the underlying philosophy of the thesis. In this paper the focus has solely been on measuring whether a relationship between market orientation and objective business performance exists. Hence, the understanding of market orientation in the pharmaceutical industry and the factors setting some companies apart from its competitors are neglected. This opens a complete uninvestigated area concerning the two questions of 1) why some companies are market oriented or not, and 2) how companies become market oriented in today's technologically fast changing pharmaceutical.

Despite the fact that market orientation has been studied for decades, the above discussion outlines that there are still opportunities for enriching the theoretical landscape by testing market orientation in specific contexts. By studying the relationship in the pharmaceutical industry this thesis has added to this enrichment.



## 6.5 Conclusion

The master thesis at hand has investigated and confirmed the relationship between market orientation and business performance in the pharmaceutical industry. In the first part of the thesis relevant academic literature was reviewed, indicating a positive relationship between the market orientation frameworks and the business performance of companies in general. Based on the literature review two models were built in this thesis.

By the means of using content analysis of letters to shareholders, we have generated a comprehensive dataset from a wide range of randomly selected pharmaceutical companies. Based on this dataset we tested both research models, which were derived from the literature review.

In research model I we hypothesized a direct positive relationship between market orientation and business performance outcomes of pharmaceutical companies. This prediction could also be supported in the analysis. Besides the direct relationship, the impact of three environmental moderating factors was investigated in the first model. However, the findings of research model I showed that none of the hypothesized moderators, namely market turbulence, competitive intensity and technological turbulence, has any significant impact on the research model. Hence, all moderating hypotheses are rejected.

In research model II the mediating effect of innovation was considered. Yet, the later analysis did not illustrate a significant relationship between market orientation and innovation, nor innovation and business performance. In this model the three moderating variables were also included. The final results showed that market turbulence did not have any significant moderating effect. Moreover, both competitive intensity and technological turbulence showed significant moderating effects on the relationship between market orientation and innovation. However, their effects were negative, instead of positive as proposed in the hypotheses. All hypothesized moderating relationships were therefore rejected in research model II.

The results of the analyses have several implications for market orientation theory. First, this master thesis has confirmed the direct influence of market orientation on business performance for pharmaceutical companies. Second, our findings support the insignificance of moderating

environmental factors surrounding market oriented pharmaceutical companies. Last, we offer new methodological procedures in measuring market orientation.

In terms of practical implications, managers are advised to facilitate a culture where everyone in the company is able to live the values of market orientation. Only when the whole company is market oriented the full potential of market orientation can be utilized and is reflected in its business performance outcomes. Moreover, managers are encouraged to ensure a balance between all three elements of the market orientation framework, namely customer orientation, interfunctional coordination, and competitor orientation. Only by aligning all three elements in a balanced manner the full potential of market orientation can be reached. Lastly, it is expected that technological turbulence continues to increase in the coming years. Thus, managers are advised to search for external technology partners which can support managers with technical guidance. Instead of wasting resources to keep up with technological advances, managers of pharmaceutical companies are instead able to focus their attention on creating value for customers through market orientation.

## References

- Abrahamson, E., & Hambrick, D. C. (1997). Attentional homogeneity in industries: The effect of discretion. *Journal of Organizational Behavior* (18), p. 513-532.
- Abrahamson, E., & Park, C. (1994). Concealment of negative organizational outcome: An agency theory perspective. *Academy of Management Journal* (37), p. 1302-1334.
- Aczel-Souderpandian. (n.d.). *Complete Business Statistics Abridged: Principles of Economics Part I*. McGraw Hill.
- Administration, I. T. (2010). *Pharmaceutical Industry Profile*. Recieved from trade.gov: <http://trade.gov/td/health/PharmaceuticalIndustryProfile2010.pdf>
- Agarwal, S., Erramilli, M. K., & Dev, C. S. (2003). Market orientation and performance in service firms: role of innovation. *Journal of Services Marketing* , 17 (1), 68-82.
- Appiah-Adu, K. (1998). Market orientation and performance: empirical tests in a transition economy. *Journal of Strategic Marketing* (6(1)), p. 25-45.
- Appiah-Adu, K., & Ranchhod, A. (1998). Market orientation and performance in biotechnology industry: an exploratory empirical analysis. *Technology Analysis and Strategic Management* , 10 (2), 197-210.
- Arndt, M., & Bigelow, B. (2000). Presenting structural innovation in an institutional environment: Hospitals' use of impression management. *Administrative Science Quarterly* (45), p. 494-522.
- Atuahene-Gima, K. (1993). An Exploratory Analysis of the Impact of Market Orientation on New Product Performance. *Journal of Product Innovation Management* , 12 (4), 275-293.
- Atuahene-Gima, K. (1996). Market Orientation and Innovation. *Journal of Business Research* , 35, 93-103.
- Au, A., & Tse, A. C. (1995). The Effect of Market Orientation on Company Performance in the Service Sector: A Comprarative Study of the Hotel Industry in Hong Kong and New Zealand. *Journal of International Consumer Marketing* , 8 (2), 77-87.
- Avlonitis, G. J., & Gounaris, S. P. (1999). Marketing orientation and its determinants: an empirical analysis. *European Journal of Marketing* , 33 (11/12), 1003-1037.
- Baker, W. E., & Sinkula, J. M. (2005). Market Orientation and the New Product Paradox. *Journal of Product Innovation Management* , 22 (6), 483-502.
- Baldrige, J. V., & Burnham, R. A. (1975). Organizational Innovation: Individual, Organizational, and Environmental Impacts. *Administrative Science Quarterly* , 20, 165-176.
- Barelson, B. (1952). *Content Analysis in Communications Research*. New York: Free Press.

- Barley, S. R., Meyer, G. W., & Gash, D. C. (1988). Cultures of Culture. *Administrative Science Quarterly* (33), p. 24-60.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management* , 17 (1), p. 99-120.
- Bennett, R. C., & Cooper, R. G. (1981). The Misuse of Marketing: An American Tragedy. *Business Horizons* , 25, 51-61.
- Berr, P., Stimpert , J., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal* (13), p. 15-36.
- Bettman, J. R., & Weitz, B. A. (1983). Attributions in the Board Room: Causal Reasoning in Corporate Annual Reports. *Administrative Science Quarterly* (28), p. 165-183.
- Bhuian, S. N. (1998). An Empirical Examination of Market Orientation in Saudi Arabian Manufacturing Companies. *Journal of Business Research* , 43, 13-25.
- Bowman, E. H. (1984). Content analysis of annual reports for corporate strategy and risk. *Interfaces* (14(1)), p. 61-71.
- Brettel, M., Engelen, A., Heinemann, F., & Vadhanasindhu, P. (2008). Antecedents of Market Orientation: A Cross-Cultural Comparison. *Journal of International Marketing* , 16 (2), 84-119.
- Bryman, A., & Bell, E. (2011). *Business Research Methods* (Third Edition udg.). New York: Oxford University Press.
- Bühner, R., & Möller, P. (1985). The information content of corporate disclosures of divisionalization decisions. *Journal of Management Studies* (22), p. 309-327.
- Buhian, S. N. (1997). Exploring market orientation in banks: an empirical examination in Saudi Arabia. *Journal of Strategic Services Marketing* , 11 (5), 317-328.
- Cadogan, J. W., Diamantopoulos, A., & Siguaw, J. A. (2002). Export Market-Oriented Activities: Their Antecedents and Performance Consequences. *ournal of International Business Studies* (33(3)),p. 615-626.
- Cadogan, J., Cui, C., & Li, E. K. (2003). Export market-oriented behavior and export performance: The moderating roles of competitive intensity and technological turbulence. *International Marketing Review* (20(5)), p. 493 - 513.
- Calantone, R., Garcia, R., & Dröge, C. (2003). The Effects of Environmental Turbulence on New Product Development Strategy Planning. *Journal of Product Innovation Management* , 20, 90-103.

- Cano, C. R., Carrillat, F. A., & Jaramillo, F. (2004). A meta-analysis of the relationship between market orientation and business performance: evidence from five continents. *International Journal of Research in Marketing* , 21 (2), 179-200.
- Cardogan, J. W., & Diamantopoulos, A. (1995). Narver and Slater, Kohli and Jaworski and the market orientation construct: integration and internationalization. *Journal of Strategic Marketing* (3), 41-60.
- Carley, K. (1997). Extracting team mental models through textual analysis. *Journal of Organizational Behavior* (18, SI), p. 533-558.
- Castro, C. B., Armario, E. M., & Sanchez del Rio, M. E. (2005). Consequences of market orientation for customers and employees. *European Journal of Marketing* , 39 (5/6), 646-675.
- Chakravarthy, B. S. (1986). Measuring Strategic Performance. *Strategic Management Journal* (7), p. 437-58.
- Christensen, C. M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Boston, MA: Harvard Business School Press.
- Christensen, C. M., & Bower, J. L. (1996). Customer power, strategic investment, and the failure of leading firms. *Strategic Management Journal* , 17 (3), 197-218.
- Clapham, S. E., & Schwenk, C. R. (1991). Self-serving attributions, managerial cognition, and company performance. *Strategic Management Journal* (12), p. 219-229.
- Cochran, D., & David, F. (1986). Communication effectiveness of organizational mission statements. *Journal of Applied Communication Research* (14), p. 108-118.
- Connor, T. (1999). Customer-led and Market-oriented: A Matter Of Balance. *Strategic Management Journal* , 20, 1157-1163.
- Cordero, R. (1990). The measurement of Innovation performance in the firm: An overview. *Research Policy* (19), p. 185-192.
- Covin, J. G., Prescott, J. E., & Slevin, D. P. (1990). The effects of technological sophistication on strategic profiles, structure and firm performance. *Journal of Management Studies* (27), p. 485-510.
- Cronin, J. J., & Page, T. J. (1988). An examination of the relative impact of growth strategies on profit performance. *European Journal of Marketing* (22(1)), p. 57-68.
- Daft, R. L., Sormunen, J., & Parks, D. (1988). Chief executive scanning, environmental characteristics, and company performance: An empirical study. *Strategic Management Journal* (9), p. 123-139.

- D'Aveni, R. A., & MacMillan, I. (1990). Crisis and the content of managerial communication: A study of the focus of attention of top managers in surviving and failing firms. *Administrative Science Quarterly* (35), p. 634-657.
- David, F. (1989). How companies define their mission. *Long Range Planning* (22), p. 90-97.
- Day, G. (1994). The capabilities of Market-Driven Organizations. *Journal of Marketing* , 58, 37-52.
- de Luca, L. M., & Atuahene-Gima, K. (2007). Market Knowledge Dimensions and Cross-Functional Collaboration: Examining the Different Routes to Product Innovation Performance. *Journal of Marketing* , 71, 95-112.
- Deloitte Centre for Health Solutions. (2014). Healthcare and Life Science Predictions 2020: A bold future?
- Deng, S., & Dart, J. (1994). Measuring market orientation: A multi-factor, multi-item approach. *Journal of Marketing Management* , 10, 213-232.
- Deshpande, R., Farley, J. U., & Webster, F. E. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: a quadrad analysis. *Journal of Marketing* , 57, 23-37.
- Desphandé, R., & Farley, J. U. (1998). Measuring Market Orientation: Generalization and Synthesis. *Journal of Market Focused Management* , 2, 213-232.
- Diamantopoulos, A., & Hart, S. (1993). Linking market orientation and company performance: preliminary evidence on Kohli and Jaworski's framework. *Journal of Strategic Marketing* , 93-121.
- Drejer, A. (2002). Situations for innovation management: towards a contingency model. *European Journal for Innovation Management* , 5 (1), 4-17.
- Duriau, V. J., Reger, R. K., & Pfarrer, M. D. (2007). A Content Analysis of the Content Analysis Literature in Organization Studies: Research Themes, Data Sources, and Methodological Refinements. *Organizational Research Methods* (10:5), p. 5-34.
- Egholm, L. (2014). *Philosophies of Science*. Copenhagen: Hans Reitzel Forlag.
- Ellis, P. (2006). Market Orientation and Performance: A Meta-Analysis and Cross-National Comparisons. *Journal of Management Studies* , 43 (5).
- Expert 1. (2016). Expert Interview. (C. Hetkamp, & M. Pedersen, Interviewere)
- Expert 2. (2016). Expert Interview 2. (C. Hetkamp, & M. Pedersen, Interviewere)
- Fombrun, C., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal* (33), p. 233-258.
- Gephart, R. P. (1993). The Textual Approach: Risk and Blame in Disaster Sensemaking. *Academy of Management Journal*, 36(6) , p. 1465-514.

- Golden, P., Doney, P., Johnson, D., & Smith, J. (1995). The dynamics of a market orientation in transition economies: a study of Russian firms. *Journal of International Marketing* (3), p. 29-49.
- Goldmand, A., & Grinstein, A. (2010). Stages in the development of market orientation publication activity. A longitudinal assessment. *44* (9), 1384-1409.
- Govindarajan, V. (1988). A contingency approach to strategy implementation at the business-unit level: integrating administrative mechanisms with strategy. *Academy of Management Review* (31), p. 828-53.
- GraphPad Software. (n.d.). *Interpreting results: Skewness and Kurtosis*. Recieved from [http://www.graphpad.com/guides/prism/6/statistics/index.htm?stat\\_skewness\\_and\\_kurtosis.htm](http://www.graphpad.com/guides/prism/6/statistics/index.htm?stat_skewness_and_kurtosis.htm)
- Gray, B. J., Greenley, G. E., Mataer, S., & Matheson, P. (1999). Thriving in Turbulence. *Journal of Market-Focused Management* (4(3)), p. 231-257.
- Greenley, E. (1995). Market Orientation and Company Performance: Empirical Evidence From UK Companies. *British Journal of Management* , 6, 1-13.
- Grewal, R., & Tansuhaj, P. (2001). Building Organizational Capabilities for Managing Economic Crisis: The Role of Market Orientation and Strategic Flexibility. *Journal of Marketing* (65(2)), p. 67-80.
- Grinstein, A. (2008). The effect of market orientation and its components on innovation consequences: a meta-analysis. *Journal of the Academy of Marketing Science* , 36 (2), 166-173.
- Grinstein, A. (2008). The relationship between market orientation and alternative strategic orientations. A meta-analysis. *European Journal of Marketing* , 42 (1/2).
- Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market Orientation and Organizational Performance: Is Innovation a Missing Link? *Journal of Marketing* , 62, 30-45.
- Harris, H. (2001). Content Analysis of Secondary Data: A Study of Courage in Managerial Decision Making. *Journal of Business Ethics*, 34(3-4) , p. 191-208.
- Harris, L. C. (2000). The organizational barriers to developing market orientation. *European Journal of Marketing* , 34 (5/6), 598-624.
- Harris, L. (2001). Market orientation and performance: objective and subjective empirical evidence from UK companies. *Journal of Management studies* , 38 (1), 17-43.
- Hayes, R. H., & Abernathy, W. J. (1980). Managing Our Way to Economic Decline. *Harvard Business Review* , 67-77.
- Herhausen, D. (2016). Unfolding the ambidextrous effects of proactive and responsive market orientation. *Journal of Business Research* , 69 (7), 2585-2593.

- Hodson, R. (Oct. 1996). Dignity in the Workplace Under Participative Management: Alienation and Freedom Revisited. *American Sociological Review* (61(5)), p. 719-738.
- Holsti, O. R. (1969). *Content Analysis for the Social Science and Humanities*. Reading: MA: Addison-Wesley.
- Homburg, C., & Pflesser, C. (2000). A Multiple-Layer Model of Market-Oriented Organizational Culture: Measurement Issues and Performance Outcomes. *Journal of Marketing Research* , 449-462.
- Houston, F. (1986). The Marketing Concept: What it is and what it is not. *Journal of Marketing* , 50, 81-87.
- Huff, A. S. (1982). Industry influences on strategic reformulation. *Strategic Management Journal* (3), p. 119-131.
- Huff, A. S. (1990). *Mapping strategic thought*. Chinchester, NY: John Wiley and Sons.
- Hult, G. T., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management* , 33, 429-438.
- Hult, G. T., Ketchen, D. J., & Slater, S. F. (2005). Market Orientation and Performance: An Integration of Disparate Approaches. *Strategic Management Journal* , 26 (1173-1181).
- Hurley, R. F., & Hult, G. (1998). Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination. *Journal of Marketing* , 62, 42-54.
- Im, S., & Workman, J. P. (2004). Market Orientation, Creativity, and New Product Performance in High-Technology Firms. *Journal of Marketing* , 68, 114-132.
- Ingram, R., & Frazier, K. (1983). Narrative disclosures in annual reports. *Journal of Business Research* (11), p. 49-60.
- International Federation of Pharmaceutical Manufacturers & Associations. (2014). The pharmaceutical industry and global health: Facts and figures 2014.
- Jansen, J. P., van den Bosch, F. A., & Volberda, H. W. (2006). Exploratory Innovation, Exploitative Innovation, and Performance: Effect of Organizational Antecedents and Environmental Moderators. *Management Science* , 52 (11), 1661-1674.
- Jaworski, B. J., & Kohli, A. K. (1993). Market Orientation: Antecedents and Consequences. *Journal of Marketing* , 57, 53-70.
- Jaworski, B. J., & Kohli, A. K. (1996). Market Orientation: Review, Refinement, and Roadmap. *Journal of Market Focused Management* , 1, 119-135.



- Jaworski, B., Kohli, A. K., & Sahay, A. (2000). Market-Driven Versus Driving Markets. *Journal of the Academy of Marketing Science* , 28 (1), 45-54.
- Kabanoff, B. (1996). Computers can read as well as count: How computer-aided text analysis can benefit organizational research. *Trends in Organizational Behavior* (3), p. 1-21.
- Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused Values and Organizational Change Themes. *Academy of Management Journal* (38(4)), p. 1075-1104.
- Keskin, H. (2006). Market orientation, learning orientation, and innovation capabilities in SMEs: An extended model. *European Journal of Innovation Management* , 9 (4), 396-417.
- Kirca, A. H., Jayachandran, S., & Bearden, W. O. (2005). Market Orientation: A Meta-Analysis Review and Assessment of its Antecedents and Impact on Performance. *Journal of Marketing* , 69, 24-41.
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research proposition, and managerial implications. *Journal of Marketing* (54), 1-18.
- Kohli, A. K., Jaworski, B. J., & Kumar, A. (1993). MARKOR: A Measure of Market Orientation. *Journal of Marketing Reserach* (30(4)), p. 467-477.
- Krippendorff, H. (2013). *Content Analysis - An Introduction to Its Methodology*. Thousand Oaks, California: SAGE Publications, Inc.
- Kumar, K., Subramanian, R., & Yauger, C. (1998). Examining the market orientation-performance relationship: a context-specific study. *Journal of management* , 24 (2), 201-233.
- Lafferty, B. A., & Hult, G. T. (1999). A synthesis of contemporary market orientation perspectives. *European Journal of Marketing* , 35 (1/2), 92-109.
- Lambin, J. (1996). The misunderstanding about marketing, today, marketing is too important to be left to sole marketing function: an empirical study in the private insurance sector. *CEMS Business Review* , 1, 247-255.
- Langerak, F., Hultink, E. J., & Robben, H. S. (2004). The Impact of Market Orientation, Product Advantage, and Launch Proficiency on New Product Performance and Organizational Performance. *Journal of Product Innovation Management* , 21, 79-94.
- Lawton, L., & Parasuraman, A. (1980). The Impact of the Marketing Concept on New Product Planning. *The Journal of Marketing* , 19-25.
- Lichtenberg, F. R. (2004). *Public Policy and Innovation in the U.S. Pharmaceutical Industry*. Cambridge, Massachusetts: MIT Press.
- Lukas, B. A., & Ferrell, O. C. (2000). The Effect of Market Orientation on Product Innovation. *Journal of the Academy of Marketing Science* , 28 (2), 239-247.

- Lusch, R. F., & Laczniak, G. R. (1987). The Evolving Marketing Concept, Competitive Intensity and Organizational Performance. *Journal of the Academy of Marketing Science* , 15 (3), 001-011.
- Malhotra, N. K., Birks, D. F., & Wills, P. (2010). *Marketing Research: An Applied Approach*. Harlow, England: Pearson Education Limited.
- Malhotra, N., Birks, D., & Wills, P. (2012). *Marketing Research: An applied Approach*. (4th Edition edg.). Harlow, UK: Pearson Education.
- Manchanda, P., & Honka, E. (2005). The Effects and Role of Direct-to-Physician Marketing in the Pharmaceutical Industry: An Integrative Review. *Yale Journal of Health Policy, Law, and Ethics* , 5 (2), 785-822.
- Marcus, A., & Goodman, R. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Academy of Management Journal* (34), p. 281-305.
- McConnell, D., Haslem, J. A., & Gibson, R. (1986). The president's letter to stockholders: A new look. *Financial Analysts Journal* (42), p. 66-71.
- Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman, H. J. (1987). Organizational Strategy, Structure, and Process. *The Academy of Management Review* , 3 (3), 546-562.
- Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009). Market Orientation, Marketing Capabilities and Firm Performance. *Strategic Management Journal* , 30, 909-920.
- Morris, R. (1994). Computerized content analysis in management research: A demonstration of advantages and limitations. *Journal of Management* (20), p. 903-931.
- Myers, R. J., & Kessler, M. (1980). Business speakers: A study of the themes in speeches by America's corporate leaders. *Journal of Business Communication* (17), p. 5-17.
- Narver, J. C., & Slater, S. F. (1994). Does competitive environment moderate the market orientation-performance relationship. *Journal of Marketing* .
- Narver, J. C., & Slater, S. F. (1990). The Effect of a Market Orientation on Business Profitability. *Journal of Marketing* , 20-35.
- Narver, J. C., Slater, S. F., & MacLachlan, D. (2004). Responsive and Proactive Market Orientation and New-Product Success. *Product Innovation Management* , 21, 334-347.
- OECD. (2005). Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data.
- Osborn, R., Jauch, L., Martin, T., & Glueck, W. (1981). The event of CEO succession, performance, and environmental conditions. *Academy of Management Journal* (24), p. 183-191.

- Osborne, J., Stubbart, C., & Ramaprasad, A. (2001). Strategic groups and competitive enactment: A study of dynamic relationships between mental models and performance. *Strategic Management Journal* (22), p. 435-454.
- Palmer, I., Kabanoff, B., & Dunford, R. (1997). Managerial account of downsizing. *Journal of Organizational Behavior* (18, SI), p. 623-640.
- Pearce, J. A., & David, F. (1987). Corporate mission statements: The bottom line. *Academy of Management Executive* (1), p. 109-116.
- Pelham, A. M., & Wilson, D. T. (1995). A Longitudinal Study of the Impact of Market Structure, Firm Structure, Strategy, and Market Orientation Culture on Dimensions of Small-Firm Performance. *Journal of the Academy of Marketing Science* , 24 (1), 27-43.
- Pinho, J. C., Rodrigues, A. P., & Dibb, S. (2014). The role of corporate culture, market orientation and organisational commitment in organisational performance: The case of non-profit organisations. *Journal of Management Development* , 33 (4), 374-398.
- Porter, M. E. (2008). *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: The Free Press.
- Pulendran, S., Speed, R., & Widing, R. E. (2000). The Antecedents and Consequences of Market Orientation in Australia. *Australian Journal of Management* , 25 (2).
- PWC. (n.d.). Pharma 2020: Challenging business models: Which path will you take.
- Raju, P. S., Lonial, S., & Gupta, Y. (1995). Market orientation and performance in hospital industry. *Journal of Health Care Marketing* , 15 (4), 34-41.
- Reukert, R. W. (1992). Developing a market orientation: An organizational strategy perspective. *International Journal of Research in Marketing* , 9 (3), 225-245.
- Rodrigues, A. P., & Pinho, J. C. (2010). Market orientation, job satisfaction, commitment and organizational performance: The specific case of local public sector. *Transforming Government: People, Process and Policy* , 4 (2), 172-192.
- Rollins, B. L., & Perri, M. (2014). *Pharmaceutical Marketing*. Burlington, MA, US: Jones&Bartlett Learning.
- Rollmann, D., Levy, D. S., & Fricker, R. (2014). Transforming the Value Proposition in Pharmaceutical Marketing. *Booz&Co*.
- Rose, G. M., & Shoham, A. (2002). Export performance and Market Orientation: Establishing an Empirical link. *Journal of Business Research* (55(3)), s. 217-225.
- Ruekert, R. W. (1992). Developing a market orientation: An organizational strategy perspective. *International Journal of Research in Marketing* , 9 (3), 225-245.

- Schumpeter, J. A. (1934). The Theory of Economic Development: An Inquiry Into Profits, Capital, Credit, Interest and the Business Cycle.
- Schutte, J. M. & Violette, D. M. (n.d.). The Treatment of Outliers and Influential Observations in Regression-Based Impact Evaluation. Retrieved from [http://aceee.org/files/proceedings/1994/data/papers/SS94\\_Panel8\\_Paper20.pdf](http://aceee.org/files/proceedings/1994/data/papers/SS94_Panel8_Paper20.pdf)
- Selnes, F., Jaworski, B. J., & Kohli, A. K. (1996). Market orientation in United States and Scandinavian companies. A cross-cultural study. *Scandinavian Journal of Management* , 12 (2), 139-157.
- Siguaw, J. A., & Honeycutt, E. D. (1995). An Examination of Gender Differences in Selling Behaviors and Job Attitudes. *Industrial Marketing Management* , 24, 45-52.
- Slater, S. F., & Narver, J. C. (1994). Does Competitive Environment Moderate the Market Orientation-Performance Relationship? *Journal of Marketing* , 58, 46-55.
- Slater, S. F., & Narver, J. C. (1995). Market Orientation and the Learning Organization. *Journal of Marketing* , 59, 63-74.
- Slater, S. F., & Narver, J. C. (1994). Market Orientation, Customer Value, and Superior Performance. *Business Horizons* , 22-28.
- Slater, S. F., & Narver, N. C. (1998). Customer-Led And Market-Oriented: Let's Not Confuse The Two. *Strategic Management Journal* , 19, 1001-1006.
- Smith, M., Busi, M., Ball, P., & van der Meer, R. (2008). Factors Influencing an Organisation's Ability to Manage Innovation: A Structured Literature Review and Conceptual Model. *International Journal of Innovation Management* , 12 (4), 655-676.
- Spiteri, J. M., & Dion, P. A. (2004). Customer value, overall satisfaction, end-user loyalty, and market performance in detail intensive industries. *Industrial Marketing Management* , 33, 675-687.
- Statista. (2015). Global pharmaceutical industry - Statista Dossier.
- Tauber, E. M. (1974). How Market Research Discourages Major Innovation. *Business Horizons* , 17 (3), 22-26.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic Capabilities and Strategic Management. *Strategic Management Journal* (509-533) , 18(7).
- Tortosa, V., Moliner, M. A., & Sanchez, J. (2009). Internal market orientation and its influence on organisational performance. *European Journal of Marketing* , 43 (11/12), 1435-1456.
- Vazquez, R., Santos, M. L., & Alvarez, L. I. (2001). Market orientation, innovation and competitive strategies in industrial firms. *Journal of Strategic Marketing* , 9, 69-90.

Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: a comparison of approaches. *Academy of Management Review* (11), p. 801-14.

Vergne, J.-P. (2012). Stigmatized Categories and Public Disapproval of Organization: A Mixed Method Study of Global Arms Industry, 1996-2007. *Academy of Management Journal* (55(5)), p. 1027-1052.

Weber, R. (1990). *Basic Content Analysis*. Thousand Oaks: SAGE Publications Inc.

WHO. (2016). *Trade, foreign policy, diplomacy and health*. Retrieved from Pharmaceutical Industry: <http://www.who.int/trade/glossary/story073/en/>

Woodrum, E. (1984). "Mainstreaming" content analysis in the social science: Methodological advantages, obstacles, and solutions. *Social Science Research* (3), p. 1-19.

Wren, B. M., Souder, W. E., & Berkowitz, D. (2000). Market Orientation and New Product Development in Global Industrial Firms. *Industrial Marketing Management* , 29, 601-611.

Ying-Pin, Y. (2016). *Management Research Review*. 39 (4), 449-467.

Yoon, E., & Lilien, G. L. (1985). New Industrial Product Performance: The Effects of Market Characteristics and Strategy. *Journal of Product Innovation Management* , 134-144.

Zhou, K. Z., Gao, G. Y., Yang, Z., & Zhou, N. (2005). Developing strategic orientation in China: antecedents and consequences of market and innovation orientations. *Journal of Business Research* , 58, 1049-1058.

Zhou, K. Z., Yim, C. K., & Tse, D. K. (2005). The Effects of Strategic Orientations on Technology- and Market-Based Breakthrough Innovations. *Journal of Marketing* , 69, 42-60.