Does marketing function pay of in moderating the relationship between market orientation and business performance

Faculty of Behavioral Management and Social Sciences

M.S.c. Thesis – Research Design

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Preface

This research is written for the Master Thesis for the study Business Administration at the University of Twente. The student, I, in this case, took on the position of researcher in this situation and I prepared the advisory report.

The subject of my thesis has been chosen based on my interest in B2B organizations and marketing. I had the opportunity to sign up for this research and was lucky enough to do the research.

Herewith I would like to thank STEM Industry Marketing Centre and all the persons who have been interviewed for their participation in the research and their commitment to completing the survey. In addition, I would like to thank my super visor from the University of Twente, Raymond Loohuis in this way. Finally, I would like to thank my family, ex-girlfriend, and friends for their support during my time of studying at the University of Twente.

I wish you a lot of reading pleasure.

Twan Ophof

Geesteren, Wednesday, 22 January 2020

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Chapter 1. Introduction

This chapter presents the research design of the study on the market orientation of B2B (Business-To-Business) organizations in the Netherlands. The research was conducted in collaboration with STEM Industrial Marketing Centre and the University of Twente. STEM Industrial Marketing Centre is a foundation for and by the industrial industry. The organization offers solutions to increase the commercial power of technical companies by having knowledge about marketing, sales, and innovation in the manufacturing industry, therefore also in the field of market orientation.

1.1 Relevance of the study

In the current economy, it is important to gain a competitive advantage. Some organizations try to achieve this by being very market-oriented because, according to Morgan, Vorhies, Mason (2009), Kirca, Jayachandran, and Bearden (2005), market orientation can provide organizations a competitive advantage. But there is a problem, the definition of what exactly is market orientation and when an organization is market-oriented, varies. Just like whether market orientation has positive consequences for business performance or negative consequences. For this research, the following definition is used to describe market orientation: “the business culture that produces outstanding performance through its commitment to creating superior value for customers”, this is in accordance with Kohli & Jaworski (1990), Morgan (2009), Slater, & Narver (2004). According to Kohli & Jaworski (1993), market orientation is a composition of three sets of activities, “intelligence generation”, the intelligence to pertain current and future customer needs, “intelligence dissemination”, the dissemination of information between departments, and “responsiveness”, how the organization response to the information. In addition, consist market orientation of two essential sets of behaviors, namely “responsive” market orientation, when the organizations discover, understand, and satisfy the customers’ needs, and the “proactive” market orientation, when the organizations discover, understand, and satisfy the dormant and/or hidden customers’ needs (Narver et al., 2004). Kohli & Jaworski (1993) use different antecedents, according to them the antecedents are “senior management factors”, “interdepartmental dynamics”, and “organizational systems”.

The problem with being market-oriented is that it is uncertain whether it has a (positive) relationship with business performance. Investigations give conflicting results, so state Kohli, Jaworski (1993), Narver, Slater (1990), Morgan, and Vorhies (2018) that market-oriented has a significant direct effect on the firms’ performance. Katsikeas, Morgan, Leonidou, and Hult (2016) also claim that market orientation has a positive effect, unfortunately, they could not determine which marketing resources, capabilities, strategies, and activities lead to the greatest performance. Kirca et al. (2005) believed that market orientation also had an indirect effect on organization performance but after they finished their research, they revised their statement by claiming that it has an indirect effect via innovativeness which affects customer loyalty and quality, which creates business performance but also by claiming that it also directly affects the business performance positively. Chang (2014) came up with the philosophy that market orientation helps B2B organizations to communicate with their customers, which leads to higher profitability and productivity. During his literature research, he saw that most literature supports the positive relationship but that a few researchers do not find a significant relationship, which is in line with the meta-analyzes done by Chang (2014), Kirca et al. (2005), Rodriguez Cano, Carrillat, and Jaramillo (2004).

Hart, Diamantopoulus (1993), and Greenley (1995) also investigated the relationship in the United Kingdom, but both found no direct relationship. Furthermore, Greenley (1995) states that it depends on the market in which the organization is active. Kirca et al. (2005) indirectly agree with this statement by arguing that the relationship between market orientation and performance is stronger for B2B (manufacturing) firms than for service companies. This is in agreement with Kohli and Jaworski

(1990) that under certain conditions it may not be critical.

To see if it can be different per country, Selnes, in collaboration with Jaworski and Kohli (1996) investigated whether the results of the United States of America also represent Scandinavian companies, the conclusion was the same. This means that the results can also be generalized to Scandinavia. Desphandé and Farley (1998) did some sort of same research and looked at the results to see if the results from the United States of America could be generalized to Europe and came to the same conclusion that this was possible. However, not everyone agrees (Langerak, Hultink, & Robben, 2004).

In addition, to the relationship between market orientation and business performance, a few moderators can also be included. This study includes the variable "marketing function" to see if it is has a moderator function in the relationship between market orientation and business performance. According to Moorman and Rust (1999), the effectiveness of a market orientation depends on the presence of marketing function. Moreover, the marketing function plays a role in connecting the customer with the product, service delivery, and financial accountability (Moorman & Rust, 1999). Day (1994) states that especially the ability of customer-linking is important for organizations that are or want to be more market-oriented. Furthermore, it is important to investigate the role of marketing function because the implementation impact of market orientation on business performance is most likely influenced by marketing function and therefore contributes to business performance. The reason for this, is that the effectiveness of market orientation, like mentioned, depends on the marketing function and, in addition, marketing function also plays a role in connecting products to customers (Moorman & Rust, 1999). According to Moorman & Rust (1999), the marketing function does this by advertising exposure, creating brand equity and is involved by the product design. All these activities are related to attracting the customers to buy the product. Such a connection then has consequences and impact on business performance.

This study is executed in the Dutch B2B market. Two studies of the Dutch market have already taken place in the past, Langerak et al. (2004) found no significant direct relationship between market orientation and business performance, but Verhoef and Leeflang (2009) found a relationship. Both researchers used different measurements to see if there was a relationship that could explain the relationship. Another aspect that differs is that one study is done in 2004 and the other is done in 2009, the market can change in these five years and that can also explain the difference. Furthermore, Langerak et al. (2004) specified their research within organizations with the Standard Industrial Code (SIC) 33-38, Verhoef and Leeflang (2009) did not specify their research to any sector. As both studies were not specified on the B2B market and since both studies do not include the marketing function in their study, this study investigates to what extent marketing function can be a moderator in the relationship between market orientation and business performance within the Dutch B2B market.

1.2 Research gap

Since several types of research have been conducted to investigate the relationship between market orientation and business performance. None of the studies investigated the relationship between market orientation and business performance with the moderator marketing function. Despite the earlier studies conducted in the Netherlands by Langerak et al. (2004), Verhoef, and Leeflang (2009), none of these studies has been specified on the B2B market in the Netherlands and none of them investigates the role of marketing function in the relationship. This research first examines the relationship between market orientation and business performance, to see if there is a significant positive relationship because there is conflicting evidence about the relationship between market orientation and business performance. This could mean that the relationship is not certain, although most studies found a positive relationship. Furthermore, the role of marketing function in this relationship is also investigated because few of the earlier studies have investigated the role of the

marketing function in the relationship between market orientation and business performance, and no researcher has done this research in the context of Dutch B2B organizations.

1.3 Research purpose

This study investigates the role of marketing function in the relationship between market orientation and business performance in the Dutch B2B market. Therefore, the purpose of this study was to provide information about the market orientation and relationship between market orientation and business performance for the B2B market in the Netherlands and to investigate what exactly the role of marketing function in this relationship is. To achieve such a purpose, the answer to the following question must be given:

To what extent does marketing function moderate the relationship between market orientation and business performance in the Dutch B2B market?

In order to answer the main research question, three sub-questions are formulated so that the combination of the answers of the sub-questions would lead to the answer to the main research question. One sub-question focuses on measuring the market orientation of B2B organizations in the Netherlands, another sub-question focuses on the relationship between market orientation and business performance for B2B organizations in the Netherlands, and the last sub-question focuses on what exactly the role of marketing function is in the relationship between market orientation and business performance.

To what extent are B2B organizations market-oriented in the Netherlands?

To what extent is there is a relationship between market orientation and business performance for B2B organizations in The Netherlands?

What is the moderating effect of the marketing function in the relationship between market orientation and business performance?

The answer to these questions provides insights into the market orientation of B2B organizations in the Netherlands and the relationship between market orientation and business performance with the moderator marketing function.

1.4 Research contribution

The study offers new insight into the market orientation of B2B organizations in the Netherlands, the relationship between market orientation and business performance, and the role of marketing function in this relationship. Existing research is largely focused on the relationship between market orientation and business performance in general. That is why this study contributes to the existing literature by using empirical research to first investigate the extent to which B2B organizations in the Netherlands are market-oriented, later by investigating the relation between market orientation and business performance for B2B organizations in the Netherlands and also by investigating the role of marketing function in this relationship. So this study contributes to the current literature in three ways.

In the first instance, this research makes a contribution by investigating the extent to which B2B organizations in the Netherlands are market-oriented. In the current situation is it unknown to what extent B2B organizations in the Netherlands are market-oriented. That is why the gap, not knowing to what extent B2B organizations are market-oriented, will be fulfilled.

In addition, this research also contributes to the current literature by researching the relationship between market orientation and business performance for B2B organizations in the Netherlands. The results would also confirm or invalidate previous studies about the relationship between market orientation and business performance. This means that this research contributes to

the emerging literature on market orientation and the relationship between market orientation and business performance.

Finally, this research makes a contribution by researching the role of marketing function in the relationship between market orientation and business performance. In the current situation, the precise role of marketing function is unknown, but there are suspicions that the variable has a moderator role. Unfortunately, this has not been investigated. By examining the role of marketing function, the role will become clear and a contribution will be made to existing investigations.

With the growing interest in market orientation, this study has important implications for marketing implications in practice. The conflicting earlier studies, worldwide, but also in the Netherlands, give marketers no guarantees as to whether or not to be market-oriented. This study is therefore useful for (marketing) managers who doubt whether the organizations should be (more or less) market-oriented and what benefits this has for the business performance. It also provides (marketing) managers information about whether their organizations are more or less market-oriented than the average B2B organization in the Netherlands. This result can be derived from the sub-question to what extent B2B organizations are market-oriented, so that organizations can also compare their own score with the average. That is why this study gives organizations an average of the market orientation of B2B organizations in the Netherlands. The role of marketing function also becomes clear, allowing managers to apply changes to their own marketing department, which can lead to business performance growing even further.

Chapter 2. Theoretical framework

2.1 B2B organizations

As mentioned earlier, the research was aimed at B2B organizations, but to specify for B2B organizations, the definition of concept must first be given. To explain the concept, two dictionaries were used to explain it.

According to Oxford Dictionaries (2019), the definition of B2B or business-to-business is "denoting trade conducted via the Internet between businesses". Cambridge Dictionary was also consulted for comparison purposes, they came up with the following definition "describing or involving business arrangements or trade between different businesses, rather than between businesses and the general public" (Cambridge Dictionary, 2019). For the purposes of this study, both definitions are combined in the definition "two different businesses describe or are jointly involved in a business agreement or trade agreement".

2.2 Market orientation

2.2.1 Definition & Antecedents

There are different definitions of what exactly market orientation is, the two biggest streams are from Narver & Slater (1990) and Kohli & Jaworski (1990).

Kohli and Jaworski (1990) state that market orientation consists of three antecedents: senior/top management, interdepartmental dynamics, and organizational systems. The first antecedent, senior management factors, means that management must ensure that information is generated in the organization. The second antecedent, interdepartmental dynamics, means the dissemination of information between the various department within the organization. The last antecedent, organizational systems, is the responsiveness of the organization to the generated information.

Narver and Slater (1990) claim something else, according to them, market orientation consists of three (behavioral) antecedents, namely: customer orientation, competitor orientation, and inter-functional coordination. With customer orientation is meant that the organization understands the entire value chain of the buyer, this must be known in the current situation but also in the future (Narver & Slater, 1990). Narver and Slater (1990) mean by the orientation of the competitor that the organization is familiar with strengths and weaknesses in the short term, but also with the long-term capabilities and strategies of the most important (potential) competitors. The final antecedent is inter-functional coordination, meaning that the organization takes advantage of the organization's resources to create superior value for the customers (Narver & Slater, 1990). These antecedents are all behavioral components of market orientation that must be used in the short term, but especially in the long term.

Organizations can use these behavioral components in two different ways. The organization can be "responsive" market-oriented [or customer-led (Slater & Narver, 1998) or market-driven (Jaworski, Kohli, & Sahay, 2000)] and "proactive" market-oriented [or driving markets (Jaworski et al., 2000)]. Responsive market-oriented organizations try to discover, understand and satisfy customer needs based on all data and information found so far (Narver et al., 2004). Moreover, Narver et al. (2004), argue that proactive market-oriented means that the organization seeks to discover, understand and meet the latent needs of the customers. Knowing the latent needs of the customers will ultimately lead to changes in the market, which is why Jarwoski et al. (2000) also call this driving market.

Desphandé and Farley (1998) combined the perspectives and antecedents from Kohli & Jaworski (1990) and Narver & Slater (1990). They defined that market orientation is a collection of

cross-functional processes and activities that have a direct relationship with creating superior value for customers through continuous needs analysis.

The combination of both perspectives, antecedents, and definitions leads to the definition that, market orientation is the business culture or process that leads to superior performance by creating value for customers (Desphandé & Farley, 1998; Kohli & Jaworski, 1990; Narver & Slater, 1990). Furthermore, market orientation is primarily focussed on contacting customers and looking at competitors in the market to obtain market information (Slater & Narver, 2000). To do this accurately, the organization must be aware of the needs of the customers, the capabilities and plan of their competitors, and transfer this information to creating superior performance for the customers, which means that the functional and organizational boundaries within the organizations should be as small as possible (Kohli & Jaworski, 1990; Narver & Slater, 1990; Oczkowski & Farrell, 1998). In addition, market orientation is primarily focused on the long term (Narver & Slater, 1990; 1998).

2.2.2 Consequences

Market orientation leads to a competitive advantage (Kohli & Jaworski, 1990; Morgan & Vorhies, 2018; Workman, Homburg, & Gruner, 2006) regardless of the market turbulence, competitive intensity, or technological turbulence of the market environment in which the organization finds itself (Jaworski & Kohli, 1993). To see what exactly leads to this competitive advantage, the consequences of market orientation are divided into four categories: organizational performance, customer consequences, innovation consequences, and employee consequences (Kirca et al., 2005).

First of all, the consequences of organizational performance, according to Kirca et al. (2005) this includes cost-based performance measures. This means that the performance of the organization becomes even greater due to market orientation, even when the costs of implementing the strategy are justified. According to Jaworski and Kohli (1990), organizations that are market-oriented achieve better business performance than an organization that is not market-oriented. Unlike Jaworski and Kohli (1990), several other researchers, for example, Morgan et al. (2009) found no significant direct link. For this reason, this relationship will be further investigated in section 2.5 on page 7. Morgan and Vorhies (2018) claim that the market-oriented organization can make more effective decisions through a better understanding of customer needs and competitors' strategies. In addition, Vieira (2010) divides this category into organizational commitment and organizational learning. Where organizational commitment also involves the employees of the organization that lead to organizational performance. Furthermore, learning is the acquisition, interpretation, and dissemination of the organizational information within the organization (Vieira, 2010).

Secondly, the consequences of the customer, including the perceived quality of products or services that leads to customer loyalty and customer satisfaction for the organization (Jaworski & Kohli, 1993; Kirca et al., 2005). The loyalty and satisfaction of the customers can be achieved by knowing the latent needs of the customers, this ensures that the organization can anticipate the customer needs and meet the needs (Kirca et al., 2005; Morgan & Vorhies, 2018; Slater & Narver, 1994).

In third place, Kirca et al. (2005) argue that innovation consequences include organization innovation. This means that the organization can create and implement new ideas, products, processes, and performance of new products (Kirca et al., 2005). This corresponds to the theories of Langerak et al. (2004), Narver et al. (2004) and Slater & Narver (1998). Langerak et al. (2004) state that market orientation has a positive relationship with product advantage and that product advantage has a positive relationship with the performance of new products, so market-oriented leads to more success of new products. According to Slater and Narver (1998), the reason for this is that the organization listens carefully to the voices of their customers.

Fourthly, Kirca et al. (2005), Kohli, and Jaworski (1990) claim that there are also consequences for the employees because market orientation increases the involvement of the organization by

creating pride, companionship, and willingness to sacrifice for the organization. This leads to a greater spirit de corps, job satisfaction and organizational commitment (Kirca et al., 2005; Kohli & Jaworski, 1990).

In contrast to these consequences, Chang (2014) decided to split all the consequences into the categories of macro-level performance and micro-level performance, with the reason that market orientation can influence many types of performance measures. The consequences remain the same, only the distribution of the consequences differs.

2.3 Business performance

Business performance is a difficult phenomenon, researchers and managers use different performance metrics and time frames to measure the business performance (Feng, Morgan, & Rego, 2015), but business performance is an important concept in strategic management (Venkatraman & Ramanujam, 1986). Moreover, Harris (2001) states that business performance can be associated with the management's perceptions of performance. Less than 10% of all studies provide a clear definition and theoretical justification for the adapted conceptualization of marketing/business performance (Katsikeas et al., 2016). It is therefore important to objectively measure business performance and to explain how the business performance is measured. Venkatraman and Ramanujam (1986) made a comparison of the different measurement approaches and described two distinguishing characteristics, namely, indicators relating to financial, operational, or both aspects of performance and whether the data were obtained from primary, secondary, or both sources.

2.4 Marketing function

The marketing function within an organization can be described as all marketing activities, knowledge, and skills, within a group of specialists in the organization. In addition, this group of specialists is responsible for marketing activities (Moorman & Rust, 1999). It can be described in a comprehensive way as a "chain of marketing productivity that extends from marketing activities to shareholder value" (O'Sullivan & Abela, 2007, p. 80). Moreover, according to O'Sullivan and Abela (2007) organizations with a strong marketing function perform better than their competitors. Furthermore, a strong marketing function has a positive relationship with ROA and stock returns (O'Sullivan & Abela, 2007). In addition, Verhoef and Leeflang (2009) state that the influence of the marketing department is positively related to market orientation.

2.5 The relationship between market orientation and business performance

The relationship between market orientation and business performance has been extensively investigated over the past thirty years. Since Narver and Slater (1990) found a relationship with the MKTOR measurement and ROA in 1990. Later, Jaworski and Kohli (1993) found a relationship with the MARKOR and by measuring the overall performance and overall performance compared to competitors. Several other researchers followed, see Table 8 in Appendix 1 Literature review. Not all researchers found a link between market orientation and business performance. A total of 30 scientific studies were analyzed to see if there is a relationship between business performance and which measurement the researchers used to analyze the market orientation and business performance. In most of the studies, a positive relationship between market orientation was found, except in the United Kingdom. No relation was found in the United Kingdom, up to three times (Diamantopoulos & Hart, 1993; Greenley, 1995; Harris, 2001), while a worldwide relationship was found (Chang, 2014; Ellis, 2006; Katsikeas et al., 2016; Kirca et al., 2005; Narver & Slater, 1990; Rodriguez Cano et al., 2004; Vieira, 2010). The reason for this may be that the relationship differs in some market conditions and this ensures that the relationship cannot be substantiated considerably (Greenley, 1995). The United Kingdom is not the only country where no relationship has been found, in countries such as Australia

(Merlo & Auh, 2009), Ghana (Appiah-Adu, 1998), Netherlands (Langerak et al., 2004), Taiwan (Lin & Brown, 2010), and one time in the United States of America (Morgan et al., 2009), the relationship was also not found to be significant. Although six research studies have found a relationship in the United States of America (Desphandé & Farley, 1998; Egeren & O'Connor, 1998; Jaworski & Kohli, 1993; Kara, Spillan, & DeShields, 2005; Matsuno, Mentzer, & Özsomer, 2002; Moorman & Rust, 1999; Morgan & Vorhies, 2018). Even in Germany (Goetz, Hoelter, & Krafft, 2013) and the Netherlands a significant relationship (Verhoef & Leeflang, 2009) was found. This means that, although most research studies find a relationship between business performance and market orientation, this can strongly depend on the market condition in which the organization operates. This can even differ within the national borders.

What is striking is that most of the researchers agree on how to measure market orientation but disagree on the measurement of business performance. As mentioned earlier, the researchers can use the MARKOR, MKTOR, and MORTN. Some researchers have adjusted this measurement, which resulted in MMOS (modified market orientation scale). Unfortunately, the researchers disagree on how to measure business performance, dozens of other ways are used. Moorman and Rust (1999), for example, use the costs, sales, profitability, and market share. This contrasts with Jaworski & Kohli & Selnes (1993; 1996) who used overall performance and overall performance compared to competitors on a Likert-scale base. The ways to measure business performance can differ in multiple ways.

In general, most of the researchers agree with the statement that market orientation has a positive significant relationship with business performance (Chang, 2014; Desphandé & Farley, 1998; Egeren & O'Connor, 1998; Ellis, 2006; Fritz & Mundorf, 2002; Jangl, 2015; Jaworski & Kohli, 1993; Kara et al., 2005; Katsikeas et al., 2016; Kirca et al., 2005; Matsuno et al., 2002; Möllering, 2019; Moorman & Rust, 1999; Morgan & Vorhies, 2018; Narver & Slater, 1990; Pulendran, Speed, & Widing, 2000; Rodriguez Cano et al., 2004; Sin et al., 2000; Sin, Tse, Yau, Lee, & Chow, 2003; Verhoef & Leeflang, 2009; Vieira, 2010). No difference was found between the different measurement methods. This does not mean that there is a relationship in every country, nor does it mean that there is a relationship between market orientation and business performance in every market environment.

Selnes et al. (1996) and Kirca et al. (2005) argue that market orientation has the strongest effect on business performance in a capitalist dominated, not highly regulated, government economies. Ellis (2006) agrees and claims that the relationship is stronger in the West than in the more culturally distant nations of Asia and Eastern Europe. Moreover, according to Kirca et al. (2005), the relationship is stronger for production organizations than for service firms and higher in cultures with low uncertainty avoidance than in cultures with high uncertainty avoidance.

Another reason could be that MKTOR outperforms MARKOR to explain the relationship between market orientation and business performance (Oczkowski & Farrell, 1998; Rodriguez Cano et al., 2004). This contrasts with the literature study, since five of the seven studies that found no significant relationship, used the MKTOR measurement. The market orientation scales of Narver & Slater (1990) and Kohli, Jaworski & Kumar (1993) have been designed for academic research, according to Greenley (1995).

There are also studies that claim that the relationship is moderated or affected by a particular condition. For example, Ellis (2006) claims that the relationship is moderated by measurement and contextual factors. In addition, Fritz and Mundorf (2002) argue that different market conditions are needed, such as the high cost of market entry, before the relationship is strongest. Another example is given by Harris (2001), who argues that consistency in highly dynamic markets is more important than market responsiveness, and therefore the relationship is influenced by other variables. Furthermore, Appiah-Adu (1998) states that the competitive environment in the transition economy of Ghana influences the market orientation – performance ratio. Matsuno et al. (2002) also state that relationship can be mediated by other variables.

2.6 The relationship between marketing orientation, marketing function, and business performance

As mentioned, the relationship between marketing orientation and business performance is well investigated, but the relationship between marketing orientation, marketing function, and business performance is less investigated. There are only studies that have investigated the relationship between two of the three aspects, such as the relationship between the marketing function and marketing orientation or marketing function and business performance.

Moorman and Rust (1999) investigated the role of marketing and discovered that the marketing function contributes to market orientation and beyond the market orientation to the financial (business) performance, customer relationship performance, and new product performance. They tested this based on the theory of Jaworski & Kohli (1990) and the theory of Narver & Slater (1990), in both cases, it has been proven to be significant. A more recent study of O'Sullivan and Abela (2007) also investigated the marketing function, in their study 'the marketing performance', and came to the same conclusion that the marketing function has a positive influence on the business performance such as the ROA and on stock returns. This was later confirmed by Feng et al. (2015) and Homburg et al. (2015). However, Homburg et al. (2015) claim that the marketing department has lost influence within organizations, but has, on the other hand, the strongest effect on business performance. These results are in contrast with Verhoef & Leeflang (2009) and Goetz et al. (2013), both of their studies found no relationship between the marketing function and business performance.

None of these studies investigated the exact role of the marketing function and the relationship between market orientation, marketing function, and business performance in general. Nevertheless, Chan H. N. and Ellis (1998) argue that business performance is partly influenced by the degree of market orientation, but more significantly by the implication of the marketing function. This would mean that there is a relationship between all three aspects. In addition, Merlo and Auh (2009) conducted a similar study by investigating the relationship between market orientation and business performance, which resulted in no significant relationship. Furthermore, the interaction effect of market orientation and marketing subunit (somewhat similar to marketing function) influence to business performance, resulting in positive and significant. This result can be considered as outstanding since the relationship between market orientation appears not to be significant, but the interaction effect of market orientation and marketing subunit influence on business performance is significant and positive.

Apart from that, Katsikeas et al. (2016) investigated the results of the relationship between marketing and performance. They discovered that the majority of the marketing performance was measured by profit, sales revenue, and market share, all product market performance indicators. Even more striking is that only 10% of all their studies (998) provided a clear definition and theoretical justification of the adopted conceptualization of marketing performance (Katsikeas et al., 2016). This makes it even more important to provide a clear definition and theoretical justification and to investigate the relationship between market orientation, marketing function, and business performance. To find out exactly what the role of marketing function is in this relationship.

2.7 Theoretical framework

Figure 1 shows the relationship between market orientation and business performance. Additionally, it shows the moderated role of marketing function. However, this theoretical framework was a hypothesis and the theoretical framework was tested during this research. This theoretical framework in this form has never been tested by other researchers.

For this theoretical framework is Jaworski and Kohli (1993; 1990) antecedents used for the market orientation, Moorman and Rust (1999) antecedents for the marketing function and for the business performance.

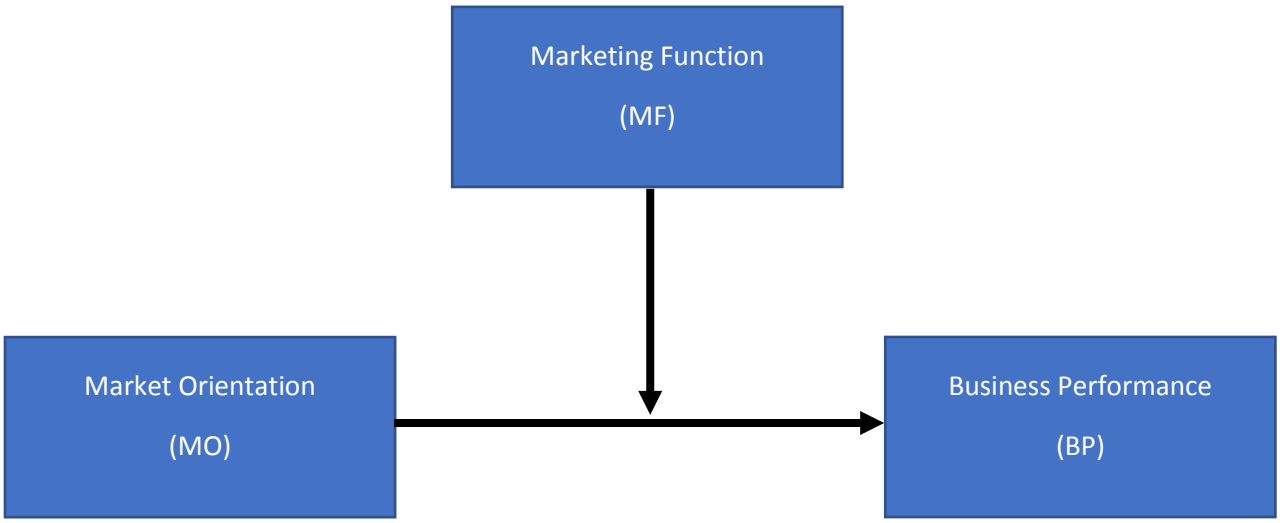

Figure 1 Theoretical framework on the relationship between market orientation, marketing function, and business performance

To test the theoretical framework several hypotheses are formed.

The first hypothesis focuses on the relationship between the level of market orientation and business performance, as two constructs. As mentioned earlier, there is conflicting evidence as to whether this relationship is significant or not, and it is not clear whether this relationship is positive or negative. Most of the studies show that the relationship is significant positive so that is also expected in this study (Chang, 2014; Desphandé & Farley, 1998; Egeren & O'Connor, 1998; Ellis, 2006; Fritz & Mundorf, 2002; Jangl, 2015; Jaworski & Kohli, 1993; Kara et al., 2005; Katsikeas et al., 2016; Kirca et al., 2005; Matsuno et al., 2002; Möllering, 2019; Moorman & Rust, 1999; Morgan & Vorhies, 2018; Narver & Slater, 1990; Pulendran et al., 2000; Rodriguez Cano et al., 2004; Sin et al., 2000, 2003; Verhoef & Leeflang, 2009; Vieira, 2010).

Hypothesis H1: The higher the level of market orientation, the better the business performance.

The second hypothesis test the constructions of market orientation, marketing function, and business performance in a model simultaneously. The level of marketing function development is expected to play a moderate role in the relationship between market orientation and business performance. In addition, the level of marketing function development is expected to positively influence the relationship between the level of market orientation and business performance since this relationship, as this relationship is confirmed by Chan H. N. & Ellis (1998) and Merlo & Auh (2009).

Hypothesis $H2_a$: The marketing function has a moderating role in the relationship between market orientation and business performance.

Hypothesis $H2_b$: The marketing function development has a direct positive influence on the relationship between market orientation and business performance.

The third hypotheses test whether business performance still has a positive impact when the level of market orientation is high and the level of the marketing function is low and vice versa.

Hypothesis $H3_a$: If the level of market orientation is high and the level of marketing function development is low, then the business performance is medium.

Hypothesis $H3_b$: If the level of market orientation is low and the level of marketing function development is high, then the business performance is medium.

The fourth hypothesis is the same as the third hypothesis, but this time the level of market orientation and marketing function is the same. It is expected that this would also lead to the same level of business performance.

Hypothesis $H4_a$: If the level of market orientation and marketing function development is low, then the business performance is low.

Hypothesis $H4_b$: If the level of market orientation and marketing function development is high, then the business performance is high.

These hypotheses are used in the statistical analyses and tested for significance. This statistical analyses and significance tests are done using the SPSS software, which is a statistical analysis software.

Chapter 3. Methodology

3.1 Research objective

The research objective of this study was to determine the extent to which B2B organizations in the Netherlands are market-oriented and to investigate the relationship between market orientation and business performance in the Dutch B2B market. In the first instance, it was assumed that the current B2B organizations would not score high on market orientation. The explanation for this can be found in the fact that there is conflicting information about whether organizations should be market-oriented or should not be market-oriented. Moreover, according to Mr. W. de Vries (managing partner of STEM Industrial Marketing Center)(personal communication, April 12, 2019), Dutch B2B organizations pay little attention to marketing and related activities. Since Mr. W. de Vries has a lot of contact with B2B organizations for his position, his statement was accepted as truth. In addition, it is assumed that the relationship between market orientation and business performance in the Dutch B2B is positive. This assumption is made on the basis of the literature study given in section 2.4 on page 7.

3.2 Research approach

The research was started by giving an overview of existing literature and theories. During the literature review, it appeared that the relationship between market orientation and business performance was well investigated, but not so much in the Netherlands. The aim of this research was, therefore, deductive confirming and quantitative to see whether the relationship theory between market orientation and business performance also stands for the Netherlands. In addition to the existing theory and the literature review, mini qualitative research (Ophof, 2019), was used to formulate the research questions and objectives (Saunders, Lewis, & Thornhill, 2009). On the basis of this existing theory of market orientation by Kohli & Jaworski (1990), business performance by Moorman & Rust (1999) and marketing function by Moorman & Rust (1999), a research survey was made, so that it can be filled in by as many respondents as possible without having to spend a lot of time on it (Brewerton & Millward, 2001).

Furthermore, the goal was also to explore inductively the role of marketing function in the relationship between market orientation and business performance, although there are suspicions that the marketing function has a moderator role in the relationship (Moorman & Rust, 1999; Saunders et al., 2009). The underlying idea for this is that little information on this subject was found during the literature review. That is why the inductive exploration method was also chosen. For this part of the research, the collected data that are found in the first part of the research is also used to investigate the role of marketing function in the relationship.

3.3 Research design

3.3.1 Research strategy

Survey research has been chosen as the appropriate research for this study because “survey research involves the collection of information from a sample of individuals through their responses to questions” (Check & Schutt, 2012, p. 160). Survey research helps to describe and explore variables and constructs of interest (Ponto, 2015). According to Check and Schutt (2012), it is an efficient tool that helps to generalize theories for sampling. In this case, the existing theories were tested to see if they can be generalized to the Dutch B2B market.

3.3.2 Sample

As mentioned earlier, survey research has also been done so that a large sample can be analyzed and investigated. To obtain a large number of samples, the study used a pre-existing sample of thirty-five Dutch B2B organizations survey results, carried out by STEM-IMC and L. Möllering (2019). The combination of both survey results should lead to approximately 100 completed survey, this has

succeeded. To combine both results, the same survey questions were used, originally written by STEM-IMC and L. Möllering (2019). In obtaining new survey results, the researcher used his LinkedIn network to reach more organizations. Furthermore, the researcher asked business owners and employees of Dutch B2B organizations to fill in the survey by sending them a connection request with a link to the survey. Not all the connection requests were accepted and even fewer people filled in the survey, but in retrospect, it did lead to enough results. In addition, some respondents did not complete the full survey, the reasons for stopping were that they did not have enough knowledge about the subject, too little time, or that they thought they had already completed the survey after completing the first/second page. Based on the last reason, the survey has been adjusted and it has been made clearer that there are more pages.

All in all, it can be said that this data collection took place in the Netherlands and all collected data are from Dutch B2B organizations. Employees from these organizations were asked to complete the questionnaire and completed the survey with answers based on the organization for which they work. In total, this has led to a sample size of 96.

3.3.3 Data collection

The data was collected from primary and secondary sources to answer the research question and to achieve the purpose of the study. First, the completed surveys are primary sources and were collected via Qualtrics web page (Möllering & Ophof, 2019). Secondly, the existing theories and data are secondary sources because they already exist and this research did not collect the data. Existing theories were found through the Scopus and Web of Science databases. To collect the data the following measurement models and theories were used.

Market orientation

Three of the most commonly used measurements of market orientation were invented by Kohli & Jaworski & Kumar (1993), Narver & Slater (1990) and Desphandé & Farley (1998). All three measurements can be found (1) as reliable and valid; (2) generalize well internationally; and (3) to be comparable in terms of validity measurements and correlation with business performance (Narver et al., 2004).

Kohli, Jaworski, and Kumar (1993) measurement method is called MARKOR, standing for market orientation measure, and uses 32 items with a 5-point Likert scale to measure the market orientation of an organization. The 5-point scale ranges from “strongly disagree” to “strongly agree” (Kohli et al., 1993).

The measurement method of Narver and Slater (1990) is called MKTOR (market orientation) and uses a 7-point Likert scale ranging from 1, which indicates that the organization does not engage in practice and 7 indicates that it largely involved (Narver & Slater, 1990).

Desphandé & Farley (1998) developed a measurement called MORTN, which stands for managerially oriented. They use 10 items with a 5-point Likert scale ranging from 1, standing for strongly disagree and 5, standing for strongly agree (Desphandé & Farley, 1998).

Business performance

According to Venkatraman and Ramanujam (1986), the most common financial performance is measured on the basis of ROI, ROE, profit growth, and sales growth. In addition, operational performance is usually measured by market share and efficiency (Venkatraman & Ramanujam, 1986).

Katsikeas et al. (2016) improved the concept model of Venkatraman & Ramanujam (1986) and state that business performance can be measured by accounting performance and financial market performance. It must be said that the performance of the financial markets is also influenced by the accounting performance. The accounting performance can be measured on the basis of turnover, revenue growth, cost, profit, margin, cash flow, and leverage. In addition, financial market

performance can be measured by the investor return, equity risk, credit rating, and cost of capital (Katsikeas et al., 2016). In addition, Katsikeas et al. (2016) advise researchers to select one or more indicators within each chosen performance aspect to make the updated performance conceptualization operational. Furthermore, it is advised, to use a time horizon to see if the performance has improved and to incorporate it into the business performance (Katsikeas et al., 2016).

According to our literature review (see Appendix 1 Literature review), the most commonly used measurement for business performance is the ROI, unfortunately, the ROI also has serious limitations (Jacobson, 1987). Jacobson (1987) claims that ROI is significantly correlated with the stock return and that this correlation is higher than alternative measurements such as growth in operating income and profit margin. To provide a clear description of what business performance is, the study should include more items that measure business performance and the current situation and compare the current situation with the situation from the past.

This study only measures the financial performance and did this by adapting the measurement (costs, sales, profitability, and market share) from Moorman & Rust (1999). In addition, respondents are asked to compare these items with the results from five years ago. For all the items, it is a 7-point Likert scale used, where 1 is worse, 4 is on par, and 7 is better.

Marketing function

Moorman and Rust (1999) claim that the marketing function consists of three antecedents. The marketing function must connect the customer with (1) the product, (2) service delivery, and (3) financial accountability (Moorman & Rust, 1999). To measure the marketing function, Moorman and Rust (1999) use a Likert scale of 7-point, with which here too 1 strongly disagree and 7 strongly agree. Four explanations are described for each of the three antecedents.

O'Sullivan and Abela (2007) use a different measurement method to measure the marketing function. They use a scale of 15 items based on their in-depth exploratory inverters with CMOs. Here too, a 7-point Likert scale was used, where 1 stands for poor and 7 stands for excellent (O'Sullivan & Abela, 2007).

This study uses the Moorman and Rust (1999) measurement with a 7-point Likert scale because this measurement gives a better overall picture of the organization's marketing function and uses fewer questions to fill in. With this addition, the questionnaire consists now out of 51 questions.

3.3.4 Data operationalization

For the data operationalization, the survey consists of 51 questions, with 39 questions to be answered with a 5-point Likert scale, where 1 stands for strongly disagree and 5 stands for strongly agree. The other questions are introductory questions about the organization for which the respondent works and in which market the organization is active.

Furthermore, the market orientation questions (nineteen questions) are based on the theory of Jaworski & Kohli (1993). For the antecedent senior/top management and interdepartmental, seven questions were asked about the generation of market information and the dissemination of information inside the organization. The latest antecedent organizational systems consist of five questions about the responsiveness of the organization to the market information.

Additionally, the questions about the marketing function are based on the theory of Moorman and Rust (1999). As mentioned earlier, the marketing function consists of three antecedents, namely the connection between customers and products, the connection between customer and service delivery, and the relationship between the customer and financial accountability (Moorman & Rust, 1999). For each of the antecedent, four questions must be answered to complete the survey.

The theory of Moorman and Rust (1999) was also used to measure business performance. For this part of the questionnaire, the respondent must answer eight questions about costs, sales,

profitability, and market share and compare the results with five years ago. In contrast to the previous questionnaire, the first four questions will use a 6-point Likert scale, where 1 stands for a lot worse, 3 stands for equal, 5 stands for a lot better, and 6 stands for inapplicable. The other four questions used a 5-point Likert scale, with the same range except is there no option 6 to not apply.

The table beneath shows an overview of all constructs, indicators with the corresponding theory and the scale used in the questionnaire.

Table 1 References of Constructs and Indicators

Constructs	Indicators	Reference	Scale
Market Orientation (MO)	Intelligence Generation	Kohli & Jaworski (1993)	5-point Likert Scale ➢ Strongly disagree ➢ Disagree ➢ Neutral ➢ Agree ➢ Strongly agree
	Dissemination		
	Responsiveness		
Marketing Function (MF)	Customer – Product Connection	Moorman & Rust (1999)	5-point Likert Scale ➢ Strongly disagree ➢ Disagree ➢ Neutral ➢ Agree ➢ Strongly agree
	Customer – Financial Accountability Connection		
	Customer – Service Quality Connection		
Business Performance (BP)	Costs	Moorman & Rust (1999)	5/6-point Likert Scale ➢ A lot worse ➢ Worse ➢ Same ➢ Better ➢ A lot better ➢ (Inapplicable)
	Sales		
	Profitability		
	Market Share		

3.3.5 Data analysis

As the questionnaire consists of 51 items and a quantitative methodology was used for the research, the researcher decided to use SPSS as a tool to analyze the data. In addition, definition levels were developed so that organizations can be subdivided into categories, with the score ranging from worse than average to better than average. To analyze the results, the researcher tried to find an automatic algorithm that puts the respondent in a category, so that the respondent automatically sees how the organization scores in terms of market orientation and marketing function, in comparison with the other respondents. This has led to the categories, see Table 9 in Appendix 2, below averages, average and above average, these categories were based on the dataset of Möllering (2019). Furthermore, the categories were made in such a way that it is difficult to score the average in each category because the middle category, the average, is the smallest category In this way, it becomes clearer for the respondent in which the organization scores better/worse than the average and, therefore, in which aspect extra attention is required.

3.4 Research process

The first step after completing this research design was to find a software or analysis tool that automatically qualifies respondents to a predefined category and automatically sends a message (an

email message) with the results back to the respondent. Thus, how the respondent's scores in comparison with the other respondents, which resulted in the respondent scoring below average, average or above in terms of market orientation and the relationship between market orientation and business performance, as mentioned earlier. When this step was completed, the earlier focus changed to promoting the survey, so the goal of achieving 100 completed surveys. This has been achieved by using the researcher's LinkedIn network and by sending connection requests through LinkedIn, as mentioned earlier in section 3.3.2 on page 12. After getting enough results, the results were analyzed with the SPSS tool. When the analyzing phase was complete, the results were evaluated, and the research questions were answered. The role of the marketing function became clear. In addition, during this analyzing and evaluating phase, there was also be continuous work on the reporting of the report. The final result was presented in the form of a final report on 22 January 2020.

3.5 Reliability and validity

An important aspect that should not be forgotten is the validity and reliability of the research, as it is important to guarantee the same conclusion in case of a repeated study (Baarda & Bakker, 2012).

Threats to the reliability of this research were analysis, data collection, selection, and participant bias.

Firstly, the analysis bias. According to Smith and Noble (2014), the analysis bias occurs when the researcher searches for data that confirm their hypotheses and/or personal beliefs and removes conflicting data. For this study, the analysis bias was prevented by describing the research process transparently. In addition, deleted data has been reported with the reason for deletion. The data collection bias occurs when the researcher's personal beliefs influence the results and the collection of data (Smith & Noble, 2014). As mentioned earlier, the research process is written transparently. Moreover, the researcher worked piece by piece. The researcher prevented the focus on a certain thing by working on the research every week and keeping the whole picture in mind. This is in line with the step-by-step method.

Furthermore, Smith and Noble (2014) quote that selection bias can occur. The selection bias relates to the recruitment process of respondents and study inclusion criteria. For this study, this was also a threat since the questionnaire can only be completed online on a website. However, it is to be expected that all potential respondents will have access to the Internet, since most of the B2B organizations in the Netherlands now also have access to the internet.

In addition, the participants' bias was mentioned. The bias of the participants relates to respondents who fill in the questionnaire more positively than in reality, because this will yield a more favorable result for them (Smith & Noble, 2014). This threat was kept under control because all respondents fill out the questionnaire anonymously on the website. Next to that, no individual respondent was analyzed during the analysis, only the averages of all respondents are used for the analysis.

Another aspect to guarantee reliability is the application of Cronbach's Alpha in SPSS. This Cronbach's Alpha tests the consistency of all the answers given to the questionnaire by the respondents (Tavakol & Dennick, 2011). This is explained in more detail, later in the report.

There were also threats to the validity of this research. One of these threats was measurement bias. The measurement bias appears when a tool or instrument has not been assessed for validity or reliability; it is not suitable for a specific setting or patient groups or the use of an incorrectly calibrated instrument (Smith & Noble, 2014). For this research, all instruments and tools, such as SPSS, were assessed for validity and reliability.

Moreover, the internal validity, for example for H1, was ensured by finding the same evidence in a previous research study conducted by Möllering (2019). Content validity was also assured, which refers to having the right questions to investigate a subject or in this case test the theory. In this study,

this was guaranteed by using questions with Likert scales, developed and used by scientists in the past, which means that the measurements of Kohli & Jaworski (1993) and Moorman & Rust (1999) have proven themselves in the past.

In addition, the validity was guaranteed by the use of scientific methods, models and theories such as SPSS and Kohli & Jaworski measurement theory (1993). For example, all used scientific articles were first coded and, later, these coding pieces were used in the research within an accompanying passage.

3.6 SPSS Analysis

For the analyses, the SPSS software was used to find out whether there is a relationship between market orientation and business performance and whether the marketing function has a moderator role in this relationship. SPSS is a statistical program that helps organize, edit and analyze data. The software was originally developed for social sciences, this can be seen from the name which stands for Statistical Package for the Social Sciences.

SPSS was used to collect the descriptive statistics for all variables and to analyze these outcomes. The descriptive statistics were followed by correlation analyses to see the strength between the constructs: market orientation and business performance and all the indicators of the constructs, for example, market responsiveness. The Pearson Correlation was also used for this research because it tests the statistical relationship or association between two continuous variables to see whether the two variables are related. Furthermore, Cronbach's Alpha test is also done in SPSS to test the reliability. This Cronbach's Alpha test was performed for all the constructs and their indicators, a total of 11 items, the constructs, and their indicators are previously described in Appendix 3 Constructs names and descriptions on page 15. A Cronbach's Alpha score around .70 and higher can be considered reliable, .60 and higher, acceptable, and a score of .50 can be seen as poor (Field, 2009). In addition, the Shapiro-Wilk and Kolmogorov-Smirnov tested the normality of the sample.

Furthermore, six assumptions must be fulfilled before the regression analyses can be started. The assumptions that are needed for regression analysis are:

1. Linearity
2. Normality
3. Homoscedasticity (constant variance of the error term)
4. Uncorrelated error terms
5. Independence of the error term
6. Multicollinearity

The first assumption, linearity, can be achieved by making a scatter plot with both constructs and with a fit line. In this way, it can be checked whether the fit line is straight or that is positive or negative. The second assumption can be checked by looking at the P-P plot and a histogram to see whether the data differs from the normal distribution. To be sure, the Kolmogorov-Smirnov & Shapiro-Wilk tests have also been performed. According to Field (2009), the Shapiro-Wilk test is more appropriate when the sample is small and the Kolmogorov-Smirnov test suits better when the sample is larger. When the normality is lower than the significance value of p. <.05, then the sample is not normally distributed, the skewness should then be tested (Field, 2009). The third assumption can be met by looking at the P-P plot of the residuals. No pattern may be visible in this P-P plot. The assumption about uncorrelated error terms assumptions is important when time series are used, this is in this study, not the case. The fifth assumption, independence of the error term, is very difficult to investigate and is based on theoretical reasoning. The last assumption, multicollinearity, can be checked by VIF scores. These scores must be below 5 to achieve this assumption.

Chapter 4. Results and finding

4.1 Results from SPSS

4.1.1 Descriptive Statistics

The dataset was first checked to find missing cases and incorrectly entered answers. In order to get a quick overview with all the relevant information, the descriptive statistics for all questions have been created, these can be found in Appendix 4 Descriptive Statistics of the dataset It can be seen that in most cases the range varies from minimum 1 to maximum 5. This is correct because the lowest possible option is 1 (strongly disagree) and the highest option is 5 (strongly agree). As described in section 3.3.3 on page 13, this applies to all questions that are about the market orientation, marketing function, and business performance (apart from option 6 'not applicable').

Outstanding is that not all introduction questions (see Table 11) are filled in, these vary from N = 82 to N = 96. The reason for this range is that in the first version of the questionnaire the introductory question did not have to be filled in. The same principle applies to questions related to business performance, wherever this number differs (Table 18). In addition, respondents who indicated that an aspect of the business performance was not relevant to them (option 6 'not applicable') were excluded from that aspect, leading to the lower N = 70 by BP_mean, since 26 respondents indicated in one aspect that this is not applicable for their organization.

Other things that stand out are that organizations score well, on average 4,1563, in responding to complaints of customers and ensuring that they are handled correctly and satisfactorily (Table 14, question 4). However, organizations score poorly on the question 'Within our company lies the ability to convert customer satisfaction and customer loyalty into financial results, with the marketing department/marketing managers', with an average of 2,8750 (Table 16, question 3). It is also striking that all averages are above the average answer of 2.5, which means that respondents more often agree with the answers than disagree.

The descriptive statistics of constructs used later in this study can be found in the table below. The most striking here is that the minimum of business performance is 2 instead of 1, which means that no organization scores much worse than the goals set or compared to 5 years ago. Moreover, the standard deviation in marketing function is much higher than the standard deviation in business performance, while the average score is also the lowest in the marketing function. This may indicate that organizations score very low or very high on the construct marketing function.

Table 2 Descriptive Statistics

Descriptive Statistics

	Mean scores of all outcomes of Market Orientation indicators.	Mean scores of all outcomes of Marketing Function indicators.	Mean scores of all outcomes of Business Performance now.	Mean scores of all outcomes of Business Performance 5 years ago.	Mean scores of all outcomes of Business Performance indicators.	BP_level	MO_level	MF_level	SUM_BP5_profitmarketshare	SUM_MO	SUM_MF	SUM_BP5	Valid N (listwise)
N	96	96	72	80	70	70	96	96	82	96	96	80	70
Minimum	1,99	1,00	2,25	2,00	2,13	4,52	3,96	1,00	4,00	37,00	12,00	8,00	
Maximum	4,71	5,00	4,50	5,00	4,75	22,56	22,22	25,00	10,00	89,00	60,00	20,00	
Mean	3,5019	3,2465	3,3368	3,6563	3,5196	12,6449	12,6245	11,2422	7,3415	66,2396	38,9583	14,6250	
Std. Deviation	,60427	,84240	,52097	,66961	,51059	3,57691	4,20581	5,10992	1,38082	11,59196	10,10879	2,67844	

4.1.2 Reliability Testing

Before the hypotheses were tested, the reliability of the questionnaire is tested with Cronbach's Alpha. Cronbach's Alpha measures the internal consistency of the model (Tavakol & Dennick, 2011) and the scores should be above 0.7 to be considered reliable (Field, 2009). For this test, the questionnaire and the constructs are divided into three groups. The first group consist of all individual items (questions), in total 39, are tested. This group also scored above the required 0.7 to be considered reliable, they scored 0.930. The second group consists of 15 items which are 'MO_A_mean', 'MO_B_mean', 'MO_C_mean', 'MO_mean', 'MF_D_mean', 'MF_E_mean', 'MF_F_mean', 'MF_mean', 'BP_G_mean',

'BP_H_mean', 'BP_cost_mean', 'BP_sales_mean', 'BP_profitability_mean', 'BP_marketshare_mean', and 'BP_mean', since these mean constructs are used during the analysis of the hypothesis and not the individual questions. In this way, the new constructs are also tested for reliability. The reliability test resulted in a score of 0.903 which is quite high, so the constructs can be considered reliable. The third and last group, consists of 7 items which were 'BP_level', 'MO_level', 'MF_level', 'SUM_BP5_profitmarketshare', 'SUM_MO', 'SUM_MF', and 'SUM_BP5', resulting in a score of 0.785. Also, in this case, the score can be considered reliable since it is above 0.7. All results can be found in Table 3.

Table 3 Reliability Analyses Outcomes (Cronbach's Alpha)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,903	,907	15

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,785	,871	7

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,930	,928	39

4.1.3 Pearson Correlations

Correlation matrices have been created to value the relationship between the constructs. The Pearson Correlation test is used for these correlation matrices. The score can be interpreted as, the closer the score to 1 the higher degree of correlation. Since the constructs: 'MO_Level', 'SUM_MO', 'MF_Level', 'SUM_MF', 'BP5_profitmarketshare' are used to test the hypotheses, these constructs have been tested with the Pearson Correlation test. The full test results can be found in Appendix 5 Pearson Correlations, but it can be said that each construct has a relationship with the underlying constructs, because all scores are higher than 0.8. This means that, according to Cohen (1988), the constructs are linearly related.

4.2 Testing Hypothesis 1

To test hypothesis 1 ("The higher the level of market orientation, the better the business performance.") all the 6 assumptions must first be met. The description and results of these assumptions can be found in Appendix 9 Regressions H1. It can be concluded that all assumptions have been achieved.

Since the assumptions have now been tested and achieved, hypothesis 1 can now be tested. For hypothesis 1, the constructs 'MO_level' and 'BP_level' were used. The full description of all constructs can be found in Appendix 3 Constructs names and descriptions, in this case, are the averages of market orientation and business performance are squared. Linear regression was then carried out, which yielded the following results, as can be seen in Table 4. The results can be described as follows, the p-value is lower than 0.05 which means that there is a relationship between the market orientation and the business performance. Striking is the low R^2 of 0.071. This means that the market orientation, in this structure, only explains the business performance construct for 7.1%. Doing the same test with 'MO_mean' and 'BP_mean' delivered the same results, see Appendix 9 Regressions H1, so it must be checked whether the R^2 can be improved.

Table 4 Model Summary Hypothesis 1 (Regression 1) with MO_level & BP_level

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,266[a]	,071	,057	3,47325

a. Predictors: (Constant), MO_level

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	9,493	1,446		6,567	,000		
	MO_level	,231	,102	,266	2,276	,026	1,000	1,000

a. Dependent Variable: BP_level

To improve the explained variation (R^2), the construct 'MF_level' was added to the regression, which led to a larger explanatory variance but did make both variances also not significant (see Appendix 9 Regressions H1). To see if there is another way to improve the explained variance and to retain the significance, the researcher looked at the results of Möllering (2019). The researcher looked at these results because this research is a follow-up study of the earlier results, and the predecessor may have used other perspectives to improve the explained variation. For example, Möllering (2019) used SUM scores instead of the 'MO_level', 'MF_level', and 'BP_level' of the constructs. Moreover, the researcher used only two factors (profitability and market share) of the business performance instead of all four and the researcher only looks at the business performance indicators compared to five years ago. To see if this produces a greater explained variation and retains the significance, exactly the same constructs were used. This delivered the following results, see Table 5.

These results show a greater explained variation of 22,8% and show that both market orientation and marketing function have a significant relationship with business performance since the p-value is lower than 0.05.

Table 5 Model Summary Hypothesis 1 (Regression 4) with SUM_MO, SUM_MF, & SUM_BP5_profitmarketshare

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,477[a]	,228	,208	1,22867

a. Predictors: (Constant), SUM_MF, SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3,459	,861		4,015	,000		
	SUM_MO	,034	,014	,271	2,398	,019	,767	1,305
	SUM_MF	,041	,016	,283	2,510	,014	,767	1,305

a. Dependent Variable: SUM_BP5_profitmarketshare

It can, therefore, be concluded that market orientation has a direct relationship with business performance. Furthermore, can be seen in the table above that the relationship is positive since the market orientation improves the constant score of 3.459 with 0.034, which means that the business

performance is positively influenced.

Formula: $Y = b_0 + b_1x_1 + b_2x_2$ → BP = 3.459 + 0.034(SUM MO) + 0.041(SUM MF).

Hypothesis H1: "The higher the level of market orientation, the better the business performance" is confirmed!

4.3 Testing Hypotheses 2

Testing hypotheses 2 ("The marketing function has a moderate role in the relationship between market orientation and business performance" and "The marketing function development has a direct positive influence on the relationship between market orientation and business performance") required 6 assumptions that must be met. In Appendix 7 Regression Assumptions (H2) can the description and results of these assumptions be found. In short, all assumptions have been achieved.

For hypothesis 2_a and 2_b are the constructs 'MO_S_Centre', 'MF_S_Centre', SUM_BP5_profitmarketshare, and 'MOMF_S' be used since the hypothesis is about the moderating role of the marketing function. For the moderation analysis, the interaction construct MOMF_S has been added, consisting of the constructs MO_S_Centre and MF_S_Centre, as described by Verboon (2014) so that the moderation effect could be analyzed in SPSS. Like in hypothesis 1, also here is the business performance used compared to 5 years ago and only with the factor's profitability and market share. The reason, therefore, is that this led to hypothesis 1 to better results than when all factors were used. Furthermore, the centralized scores were used since the multicollinearity assumptions were achieved but the not centralized sum scores were used, as explained in Appendix 7 Regression Assumptions (H2). In addition, all regressions outcomes for this hypothesis can be found in Appendix 10 Regressions H2. As can be seen in Table 6, the moderator role of marketing function cannot be proven since the p-value is 0.07 and that is above 0.05 with an explained variance of 25,9%. However, both individuals' relationships between market orientation – business performance, and marketing function – business performance remain proven.

Table 6 Model Summary Hypothesis 2 (Regression 1) with MO_S_Centre, MF_S_Centre, MOMF_S, and SUM_BP5_profitmarketshare

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,509[a]	,259	,230	1,21138	,259	9,081	3	78	,000

a. Predictors: (Constant), MOMF_S, MF_S_Centre, MO_S_Centre

b. Dependent Variable: SUM_BP5_profitmarketshare

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	7,394	,148		49,815	,000					
	MO_S_Centre	,037	,014	,295	2,631	,010	,408	,286	,257	,756	1,324
	MF_S_Centre	,043	,016	,297	2,663	,009	,414	,289	,260	,763	1,311
	MOMF_S	-,002	,001	-,179	-1,809	,074	-,086	-,201	-,176	,966	1,036

a. Dependent Variable: SUM_BP5_profitmarketshare

It can, therefore, be concluded that the marketing function has not a moderate role in the relationship between market orientation and business performance.

Hypothesis H2$_a$: "The marketing function has a moderate role in the relationship between market orientation and business performance" is rejected!

For the second part of hypothesis 2, it can be concluded that the marketing function does not positively influence the relationship between market orientation and business performance. The marketing function has its own relationship with the business performance and this relationship is not correlated with the relationship between market orientation and business performance.

However, the marketing function can indirectly influence the relationship between market orientation, for this, the marketing function needs a relationship with the market orientation. As proven in Appendix 10 Regressions H2, the marketing function has a relationship with market orientation and positive influences the market orientation with a score of 0.631, but the conclusion remains for this hypothesis because the moderating effect has not been directly proven.

Hypothesis H2$_b$: "The marketing function development has a direct positive influence on the relationship between market orientation and business performance" is rejected!

4.4 Testing Hypotheses 3 & Hypotheses 4

For hypotheses 3 and hypotheses 4, the same regression was used for hypothesis 1 (regression 4) because the moderator role of the marketing function is not significant. This means that the constructs remain the same, but the assumptions must be met. This is done in Appendix 8 Regression Assumptions (H3 & H4). If the moderator role was significantly proven, the regression used for hypothesis 2 would be used, but this is not the case. In addition, the full regression outcomes can be found in Appendix 11 Regressions H3 & H4.

The constructs 'SUM_MF', 'SUM_MO', 'SUM_BP5_profitmarketshare' were used for these hypotheses because these constructs improve the explained variance to 22,8%. Furthermore, in the previous study by Möllering (2019), only these constructs were used. This regression shows the following formula.

$Y = b_0 + b_1x_1 + b_2x_2 \rightarrow BP = 3.459 + 0.034(\text{SUM MO}) + 0.041(\text{SUM MF})$.

Table 7 Model Summary Hypothesis 3 & Hypothesis 4 (Regression 1) with SUM_MF, SUM_MO, SUM_BP5_profitmarketshare

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,477[a]	,228	,208	1,22867

a. Predictors: (Constant), SUM_MF, SUM_MO

b. Dependent Variable: SUM_BP5_profitmarketshare

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,459	,861		4,015	,000					
	SUM_MO	,034	,014	,271	2,398	,019	,408	,260	,237	,767	1,305
	SUM_MF	,041	,016	,283	2,510	,014	,414	,272	,248	,767	1,305

a. Dependent Variable: SUM_BP5_profitmarketshare

It can, therefore, be concluded that when the market orientation is high and the level of the marketing function is low, the business performance is medium, because the differences between the market orientation and marketing function scores only differ by 0.07. So there is a causal relationship between market orientation and marketing function, only this relationship between marketing function and business performance is stronger than the relationship between marketing function and business

performance. When both constructs are added to the analysis, they keep each other virtually in balance, which in turn eliminates the causal relationship between only two of the constructs.

Hypothesis H3$_a$: "If the level of market orientation is high and the level of marketing function development is low, then the business performance is medium" is confirmed!

For the second part, the conclusion is the same, apart from that, in this case, the market orientation is low and the market orientation is high. This also means that in this case, the difference between the sum scores of market orientation and marketing function increases by 0.07 per one-unit. In this case, this can lead to a high business performance when the sum scores are very high.

Hypothesis H3$_b$: "If the level of market orientation is low and the level of marketing function development is high, then the business performance is medium" is confirmed!

Hypothesis H4 is the same as Hypothesis 3, but this time the level of market orientation and marketing function is the same. For the same formula was used for this, as described in the previous section. This means that the market orientation and marketing function influences the business performance, in case of market orientation with 0.034 increase or decrease and in case of marketing function with 0.041 increase or decrease.

It can, therefore, be concluded that when the market orientation and marketing function development are low, the business performance is also low. A decrease of one unit in SUM MO and one unit in SUM MF would decrease the SUM BP by 0.75, leading to the SUM BP result of 3.384.

Hypothesis H4$_a$: "If the level of market orientation and marketing function development is low, then the business performance is low" is confirmed!

The same conclusion can be drawn for the second part of these hypotheses since an increase of one unit in SUM MO and one unit in SUM MF would increase the SUM BP with 0.75, which leads to the SUM BP result of 3.534.

Hypothesis H4$_b$: "If the level of market orientation and marketing function development is high, then the business performance" is confirmed!

Chapter 5. Discussion

5.1 Discussion

In this study, the relationship between market orientation, marketing function, and business performance was investigated, as was the role of the marketing function. For this study, the Dutch manufacturing B2B SMEs were investigated to see if there is a relationship between marketing orientation and business performance and to see if the marketing function has a moderator role in this relationship. This has been done based on three research questions and four hypotheses. The main research question was "*To what extent does marketing function moderate the relationship between market orientation and business performance in the Dutch B2B market?"*. How market-oriented Dutch B2B organizations are was first investigated, to answer this research question (RQ1). Followed by, whether there is a relationship between market orientation and business performance (RQ2), and what the moderating effect is of marketing function on the relationship between market orientation and business performance (RQ3).

The results show that Dutch B2B organizations qualify themselves as above average market-oriented and are satisfied with their market-oriented activities. Most respondents (strongly) agree with market-oriented questions, which means that market-oriented activities are carried out in their organization. This can be considered remarkable because market orientation is qualified as "the business culture that produces outstanding performance through its commitment to creating superior value for customers" (Kohli & Jaworski, 1990; Morgan et al., 2009; Narver et al., 2004) and can provide organizations a competitive advantage (Kirca et al., 2005; Morgan et al., 2009). But it is impossible for all organizations to gain a competitive advantage and create superior value for customers. This assumes that organizations have a lot of confidence in themselves and their market orientation activities, known as overestimating bias or overconfidence effect. This means that the respondent overestimates the performance of his or her organization due to the overconfidence that focuses on the certainty in their own assets, performance and chance of success. This kind of bias can be overcome by asking questions that do not concern the opinion of the respondent. This study asked for an estimate and opinion with the options aviable; totally disagree, disagree, neutral, agree, and totally agree. When the respondents are asked about units or facts, such as how often does it occur that …. within your organization, where the options are 1-5, 6-10, 11-15 per year, then the opinion is taken out.

Furthermore, the findings claim that there is a relationship between market orientation and business performance in the Dutch B2B market. This result is in line with our hypothesis (H1), most research done by researchers around the world, see Appendix 1 Literature review, and also the research done by Verhoef & Leeflang (2009) in the Netherlands. However, the research rejects the conclusions of Langerak et al. (2004) about being not able to prove the relationship in the Netherlands. This result even exists even when the construct marketing function is added to the regression. Even in this case, both constructs have their own independent relationship with the dependent construct business performance.

In addition, the results show that the moderator role of marketing function can not be proven, which means that the marketing function has no moderator role in the relationship between market orientation and business performance. As mentioned in the previous section, the construct marketing function has a relationship with business performance, but the construct does not directly moderate the relationship between market orientation and business performance. However, the construct itself also has a relationship with the construct market orientation. Therefore, it has also been tested whether or not there is a mediator variable. Both the market orientation and the marketing function have been tested as mediator variable, but in both cases this was not the case. This led to the new theoretical framework, which will be presented at the end of this section (Figure 2). These results are

not in line with the hypothesis (H2) and the theory of Moorman & Rust (1999), because the construct marketing function is expected to have a moderator role in the relationship, but this was not the case.

The findings (H3 & H4) also suggest that construct market orientation is slightly less important for business performance than the construct marketing function, because the market function influences business performance more than the market orientation. This is quite striking because most previously studies do not include the construct marketing function, which is one the reason why this study was conducted. This study shows that the construct marketing function is at least as important as market orientation and perhaps even more important.

The initial theoretical framework is adjusted with the new findings of the study, see the Figure below.

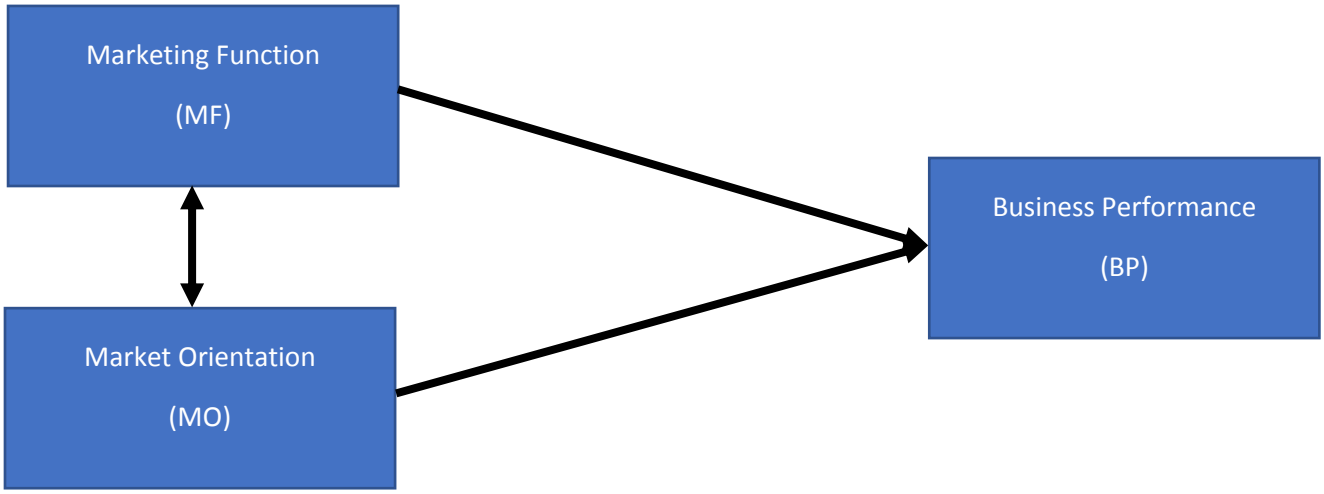

Figure 2 New theoretical framework on the relationship between market orientation, marketing function, and business performance

5.2 Management implications

The aim of the study was to provide information about the market orientation and the relationship between market orientation and business performance for the B2B market in the Netherlands. Moreover, the goal was to investigate the exact role of the construct marketing function in this relationship. This had led to the following management implications.

An important management implication is that the relationship between the independent constructs; market orientation, marketing function, and the dependent; business performance has been considerably proven for the Dutch B2B market. The relationship between the constructs was not certain, the researchers did not even agree whether there is a relationship between market orientation and business performance. Several studies show that there is a relationship and other studies show that they have not a relationship. For the Dutch B2B market it can now be stated that there is a relationship between market orientation and business performance, even when the construct marketing function is added to the regression. When the construct is added, there is still a relationship between market orientation – business performance, marketing function – business performance and even between the two independent constructs; market orientation – marketing function is a relationship. In all cases, the constructs influence each other positively, which means that the organization must score as well as possible in terms of market orientation and marketing function in order to achieve the best possible business performance.

Another management implication is that the construct marketing function is slightly more important than the construct market orientation for the performance of the organization. That while the respondents themselves indicate that their organization is better in terms of market orientation than in terms of the marketing function, see Table 2 on page 15. This shows that there is room for improvement. It is important for organizations to find out how well the organization scores in terms of

the marketing function and how the organization can improve the marketing function score. In addition, the current results show the organization focus more on market orientation than on the marketing function in the organization. This study proves that the organizations must focus on both constructs and must try to perform best on the construct marketing function because this construct affects the business performance the most.

An organization can improve market orientation by improving the process in which the organization obtains, processes and disseminates information about consumers and competitors (Zait, Timiras, & Nichifor, 2010). In more detail, employees of an organization must continuously create superior value for customers, which means that every employee and function must constantly contribute skills and knowledge to creating this superior value (Narver, Slater, & Tietje, 1998). According to Narver et al. (1998), it is important to obtain the dedication of the organization to the core value and to develop the necessary resources, incentives, skills, and continuous learning to implement this core value in the organization. To achieve these objectives, it is important to first identify all skills and knowledge within the organization and then to exploit these skills and knowledge to create the superior value, subordinate these skills and knowledge, evaluate these skills and knowledge, and the final step is to do this continuously within the organization. Continuity is guaranteed in this way. All of this can be done based on the three aspects of market orientation, namely intelligence generation, intelligence dissemination, and responsiveness. An aspect where the organization scores better than average requires less attention than an aspect where the organization scores less than average. It is therefore important to identify these weaknessess within the organization and conver them into strengths. For example, an organization obtains sufficient market information, but does not share this information with the right employee, which means that the information is not used optimally. This has consequencs for the market orientation, while implying all these ideas leads to the optimal market orientation within the organization.

Moreover, the same idea applies to improving marketing function within the organization. In this case, it is only about the relationship between the customer with (1) the product, (2) service delivery, and (3) financial accountability (Moorman & Rust, 1999). According to Moorman and Rust (1999), the traditional role of marketing has been to link the customer with the product, but that is no longer the only issue. Organizations must also establish the connection between the customer and the service delivery, this can be done by converting the needs of the customer into information that is shared with the right employees within the organization. This is only achieved if the organization has the skills and knowledge to make this need clear and to meet this need. Another example is that the marketing must succeed in translating customer satisfaction and loyalty into financial results, which means that the marketing employees must have the skills and knowledge to do this. The optimum marketing function is thus only achieved by continuously identifying, exploiting, and evaluating these skills and knowledge.

5.3 Theoretical implications

A lot of research has been done on the relationship between market orientation and business performance, but little research has been done on the relationship between market orientation, marketing function, and business performance. This research provides new insight into the relationship between market orientation, marketing function, and business performance. The results prove that in the case of the Dutch B2B market there is a connection between market orientation and business performance.

In addition, the findings show that the construct marketing function, in contrast to Moorman and Rust theory (1999), does not have a moderator role, but should be taken into account as an independent construct that has a relationship with the business performance and its own relationship with the construct market orientation. The findings were unexpected and show that the hypotheses

were incorrect, which means that the theoretical framework was also incorrect. This theoretical implication has led to a new theoretical framework, see Figure 2 on page 25.

When examining the dependent construct business performance, only two factors were used. When all factors were used for the investigation, there was no relationship between market orientation and business performance. Even when the independent marketing function was added to the regression, there was no relationship between the market orientation – business performance, and marketing function – business performance. Since this led to no relationships, all factors were investigated, also in combination with each other, which led to the use of only two factors, in accordance with the Möllering study (2019). In this case, there was a significant relationship between the constructs market orientation and business performance, which is then in line with most studies done on the relationship between market orientation and business performance, see Appendix 1 Literature review on page 34. Not only was there then a relationship between market orientation and business performance, but there was also a relationship between the marketing function and business performance, this is in accordance with research done by Moorman and Rust (1999), Feng et al. (2015), and Homburg et al. (2015). This means that the market orientation has a relationship with business performance in the Dutch B2B market when only two factors of business performance (profitability and market share) are measured.

Another theoretical implication is that a significant relationship was found between the constructs' market orientation and marketing function. This research proves that both constructs positively influence each other. This is an aspect that is not included in the Jaworski and Kohli MARKOR measurement (1993). That is striking because this research proves that the market orientation is not only influenced by the three aspects of market orientation (intelligence generation, intelligence dissemination, and responsiveness) but is also influenced by the construct marketing function. One reason for this may be that Moorman and Rust's theory (1999) about marketing function was written in 1999, six years after research by Jaworski and Kohli (1993) about the market orientation. This means that the MARKOR measurement (1993) may be outdated and that all studies done with the MARKOR measurement may be done incorrectly. A new study must prove whether the MARKOR measurement is out of date.

Furthermore, this study proves that the relationship between market orientation and business performance can differ per market and this can also differ per country. Since Langerak et al. (2004) prove that there is no relationship in the Dutch market with organizations active within the SIC 33-38, Verhoef & Leeflang (2009) prove that there is relationship between market orientation and business performance in the Dutch market in general, and this study proves that there is a relationship between market orientation and business performance in the Dutch B2B market. These results show results in different markets but in the same country. This indicates that the relationship between market orientation and business performance differs per market segment. Meaning that when the market of a country is generally examined, the results may differ from the results of a specific market segment in the same country

Moreover, the discussion about measuring business performance is justified. As mentioned earlier, researchers use multiple ways how to measure business performance. Some researchers use costs, sales, profitability, and market share (Moorman & Rust, 1999), others use overall performance and overall performance compared to competitors (Jaworski & Kohli, 1993; Pulendran et al., 2000; Selnes et al., 1996), and some researchers analyze sales growth (Sin et al., 2000, 2003). All measurement methods can be found in Appendix 1 Literature review on page 34. This research proves that the factors used by Moorman and Rust (1999) led to no relationship, but when only two factors were used, there was a significance. This proves that researchers can use different ways to confirm or reject their hypotheses, simply by changing the variables of the construct business performance. This

is possible because there are so many ways to measure the business performance and researchers do not agree which method is best.

5.4 Limitations and recommendations

This study does have managerial and theoretical implications, but there are also limitations to the results.

Firstly, the relationship between market orientation – business performance, marketing function – business performance was only proven when the business performance consists of two factors, namely profitability and market share. As mentioned earlier, there is no significant relationship between market orientation and marketing function when the business performance consists of all four factors; costs, sales, profitability, and market share. This is something that should be kept in mind during the implementation of the results.

Secondly, 96 completed surveys were used for this study, not all of the organizations use all four factors for business performance, which is why most of the results are only based on 82 respondents. These 82 respondents work for an organization where profitability and market share are related to business performance. Therefore, the generalizability of this study can be considered as a minor problem, since there are in fact many more B2B organizations in the Dutch B2B market. It would be better when the sample size was larger than 200 respondents. Unfortunately, it was not possible to recruit and/or approach more respondents within the time frame.

Finally, not every sector of the B2B market is represented in the sample size. For the questionnaire, the B2B market has been split into 32 sectors, based on the Dutch SBI codes (Kamer van Koophandel, 2019). Only 22 sectors are represented in the results. This means that the findings and the conclusions may not apply to every sector type of the Dutch B2B market, simply because the sector is not/too little represented in the sample. That is why, the findings are based on the Dutch B2B market as a general, and not specifically on sector type.

These limitations automatically lead to recommendations for future research. Thus, future research can be done with a larger sample size, preferably 200 or more, to verify the results. This leads to a better generality for the results and gives the study more reliability and credibility. Furthermore, it can be checked whether the outcomes subsequently represented the business performance with all four factors, rather than only two. In addition, future research can be done in a specific or multiple specific sector types to investigate whether the relationship between market orientation, marketing function, and business performance differs between sector types. In the current situation, the Dutch B2B market is represented by all industries, but this can be done more specifically. This can lead to new insights about the Dutch B2B market and the differences between the sectors.

Chapter 6. Conclusion

In conclusion, the answer to the research question "*To what extent does marketing function moderate the relationship between market orientation and business performance in the Dutch B2B market?*" can be given. Based on the findings, it can be said that organizations active in the Dutch B2B market are more market oriented than the marketing function focused. Moreover, the results show that market orientation is related to business performance. In addition, the findings prove that the marketing function does not have a moderator role, but that both the market orientation and marketing function must be seen as independent constructs with their own relationship with business performance. Both constructs have a positive impact on business performance. It can even be said that marketing function influence business performance slightly more than market orientation, while most organizations perform better in market orientation than in marketing function. This leads to a medium business performance when the organization scores high on one independent construct and low on the other. All in all, it is advised that organizations focus more on the marketing function activities within the organization than in the current situation, because now organizations perform better on market orientation while this construct influences business performance less. Moreover, the organization scores best if it scores high on both market orientation and marketing function.

For organizations, this research confirms that there is a relationship between market orientation and business performance constructs. In addition, the marketing function also has a relationship with business performance. The research, therefore, creates new insight into the relationship between market orientation, marketing function, and business performance. It shows that an organization must not only focus on one aspect but must focus on both the market orientation and the marketing function.

The purpose of this research is achieved because the information is provided about the market orientation and the relationship between market orientation and business performance for the Dutch B2B market. Furthermore, it is now clear what the exact role of the marketing function is in this relationship. This shows that the purpose of the research has been achieved.

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Appendix 1 Literature review

Table 8 Literature review, the relationship between market orientation and business performance

Researchers	Strength relationship	Country	Measurement MO	Measurement BP
(Appiah-Adu, 1998)	Not significant	Ghana	MKTOR	Sales growth ROI (last 3 years)
(Chang, 2014)	Positive	Worldwide	Meta-analysis	Meta-analysis
(Desphandé & Farley, 1998)	Positive	Europe & United States of America	MORTN	Customer Retention, Sales Growth, ROI, Return on Sales
(Diamantopoulos & Hart, 1993)	Not significant	United Kingdom	MARKOR	Sales growth, profit, above or below industry average
(Egeren & O'Connor, 1998)	Positive	United States of America	MKTOR	Relative financial performance given by the CEO
(Ellis, 2006)	Positive	Worldwide	Meta-analysis	Meta-analysis ROI, ROA, sales growth, cash-flow
(Fritz & Mundorf, 2002)	Positive	Germany	Degree selling oriented thinking reflects corporate philosophy, degree which customer oriented thinking reflects corporate philosophy, importance of customer satisfaction	Degree reaching goal competitiveness, degree reaching goal customer satisfaction, degree reaching long-term profit goral, reaching goal securing the continuance (within 3 years)
(Goetz et al., 2013)	Positive	Germany	MORTN	Market share, revenue growth, profitability, overall performance
(Greenley, 1995)	Not significant	United Kingdom	MKTOR	ROI, new product success rate, sales growth
(Harris, 2001)	Not significant	United Kingdom	MKTOR	Performance in relative to competitors, ROI, sales growth (last 3 years)
(Jangl, 2015)	Weak positive	High Firms in Czech Republic & Germany	MMOS based on MARKOR	Sales growth, ROA, market share
(Jaworski & Kohli, 1993)	Positive	United States of America	MARKOR	Overall performance, overall performance relative to competitors
(Selnes et al., 1996)	Positive	Scandinavia (Norway, Denmark, and Sweden)	MARKOR	Overall performance, overall performance relative to competitors

(Kara et al., 2005)	Positive	United States of America	MARKOR	Sales, sales growth, market share, ROI (last 3 years)
(Katsikeas et al., 2016)	Positive	Worldwide	Meta-analysis	Meta-analysis
(Kirca et al., 2005)	Positive	Worldwide	Meta-analysis MARKOR	Meta-analysis, overall business performance, profit, sales, market share
(Langerak et al., 2004)	Not significant	The Netherlands	MKTOR	Sales growth, profitability, new product success, sales share new products, market share, ROI or IRR
(Lin & Brown, 2010)	Not significant	Taiwan	MKTOR	Costs, sales, profitability, market share (last 5 years)
(Matsuno et al., 2002)	Positive	United States of America	MMOS (modified market orientation scale) based on MARKOR	Market share, % new product sales to total sales, ROI
(Merlo & Auh, 2009)	Not significant	Australia	MKTOR	Cash flow, sales volume, market share, revenue to profitability
(Morgan & Vorhies, 2018)	Positive	US trucking industry	MARKOR	Customer satisfaction & CFROA (Firm's cash-flow return on assets)
(Morgan et al., 2009)	Not significant	United States of America	MARKOR	Profitability, ROA (last 2 years)
(Moorman & Rust, 1999)	Positive	United States of America	MARKOR & MKTOR	Costs, sales, profitability, market share
(Narver & Slater, 1990)	Positive	Worldwide (western corporations)	MKTOR	ROA
(Pulendran et al., 2000)	Positive	Australia	MARKOR	Overall performance, overall performance in relative to competitors, ROI in relative to competitor, sales, overall performance in relative to the expectation
(Rodriguez Cano et al., 2004)	Positive	Worldwide	Meta-analysis	Meta-analysis
(Sin et al., 2000)	Weak positive	China	MKTOR	Sales growth, customer retention, ROI, market share
(Sin et al., 2003)	Positive	China	MKTOR	Sales growth, customer retention, ROI, market share, getting important and valuable information, ability to obtain loan, ability to obtain better terms in loan, ability to governmental approval, shortening the time required for governmental approval, contact with important persons, ability to secure local resources, motivating employee

(Verhoef & Leeflang, 2009)	Positive	The Netherlands	MORTN	Costs, sales, profitability, market share
(Vieira, 2010)	Positive	Brazilian & Worldwide	Meta-analysis (MARKOR & MKTOR)	Sales, profitability, sales by employee, market-share

Appendix 2 Types of categories

Table 9 Different types of categories of market orientation and marketing function

Constructs	Indicators	Score	Category
Market orientation	Intelligence Generation	<3.48	Below average
		3.48 – 3.98	Average
		>3.98	Above average
	Dissemination	<2.88	Below average
		2.88 – 3.38	Average
		>3.38	Above average
	Responsiveness	<3.50	Below average
		3.50 – 4.00	Average
		>4.00	Above average
Marketing function	Customer – Product Connection	<2.93	Below average
		2.93 – 3.43	Average
		>3.43	Above average
	Customer – Financial Accountability Connection	<2.93	Below average
		2.93 – 3.43	Average
		>3.43	Above average
	Customer – Service Quality Connection	<3.23	Below average
		3.23 – 3.73	Average
		>3.73	Above average

Appendix 3 Constructs names and descriptions

The table beneath contains all constructs used with their descriptions, most of the constructs are in accordance with the previous study by Möllering (2019) and sometimes is the description the same but is the construct slightly different.

Table 10 Constructs names and descriptions

Constructs	Description
MO_A_mean	Mean scores of all outcomes of Market Orientation intelligence generation.
MO_B_mean	Mean scores of all outcomes of Market Orientation intelligence dissemination.
MO_C_mean	Mean scores of all outcomes of Market Orientation responsiveness.
MO_mean	Mean scores of all outcomes of all three Market Orientation indicators.
MF_D_mean	Mean scores of all outcomes of Marketing Function customer-product connection.
MF_E_mean	Mean scores of all outcomes of Marketing Function customer-financial accountability connection.
MF_F_mean	Mean scores of all outcomes of Marketing Function customer-service quality connection.
MF_mean	Mean scores of all outcomes of Marketing Function connections.
BP_G_mean	Mean scores of all outcomes of Business Performance compared to goals set.

BP_H_mean	Mean scores of all outcomes of Business Performance compared to 5 years ago.
BP_cost_mean	Mean scores of all outcomes of Business Performance based on cost.
BP_sales_mean	Mean scores of all outcomes of Business Performance based on sales.
BP_profitability_mean	Mean scores of all outcomes of Business Performance based on profitability.
BP_marketshare_mean	Mean scores of all outcomes of Business Performance based on market share.
BP_mean	Mean scores of all outcomes of Business Performance based on all performance indicators.
BP_level	The mean of Business Performance outcomes squared.
MO_level	The mean of Market Orientation outcomes squared.
MF_level	The square of Marketing Function mean outcomes.
MO_Centre	The mean scores of Market Orientation centralized.
MF_Centre	The mean scores of Marketing Function centralized.
MOMF (Moderator)	The mean scores of Market Orientation times the mean scores of Marketing Function.
SUM_BP5_profitmarketshare	Sum of scores of Business Performance based on 5 years ago with only the scores of profitability and market share.
SUM_MO	Sum of scores of Market Orientation outcomes.
SUM_MF	Sum of scores of Marketing Function outcomes.
SUM_BP5	Sum of scores of Business Performance based on 5 years ago.
MO_S_Centre	The sum scores of Market Orientation centralized.
MF_S_Centre	The sum scores of Marketing Function centralized.
MOMF_S (Moderator)	The sum scores of Market Orientation times the sum scores of Marketing Function.

Appendix 4 Descriptive Statistics of the dataset

Table 11 Descriptive Statistics of Control Variables (Introduction Questions)

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Datum en tijd	96	22272790,00	1,37730E+10	1,37952E+10	1,37868E+10	8429950,098
2. Wat is je hoogst genoten opleiding?	82	4,00	1,00	5,00	2,5000	,83518
3. Welke uitspraak sluit het beste bij jou aan?	94	4,00	1,00	5,00	2,0106	,94465
4. Hoeveel jaar ervaring heb je in marketing?	96	3,00	1,00	4,00	3,1354	1,15731
6. Is er een aparte marketing afdeling binnen jouw organisatie?	94	4,00	1,00	5,00	2,7766	1,39241
7. Hoeveel mensen zijn werkzaam op de marketingafdeling?	96	8,00	1,00	9,00	2,6875	2,04843
8. Wat is de rol van jouw organisatie in de keten?	91	12,00	2,00	14,00	9,0220	3,51498
9. In welke branche is jouw bedrijf actief?	90	32,00	1,00	33,00	19,0222	9,39397
10. Hoeveel mensen zijn werkzaam in jouw bedrijf?	96	6,00	1,00	7,00	3,1771	1,77108
11. Hoeveel jaar bestaat de organisatie	96	4,00	1,00	5,00	4,5312	,82018
12. Land	95	3,00	1,00	4,00	1,2421	,75394
Valid N (listwise)	68					

Table 12 Descriptive Statistics of Market Orientation Generation

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. Ons bedrijf heeft minimaal eenmaal per jaar een ontmoeting met klanten om navraag te doen naar de producten en diensten waar behoefte aan is in de toekomst	96	4,00	1,00	5,00	3,7604	1,29570
2. We vragen onze klanten minimaal een keer per jaar om de kwaliteit van onze producten/ diensten te beoordelen	96	4,00	1,00	5,00	3,6875	1,13613
3. We herkennen snel veranderingen in de voorkeuren van onze klanten m.b.t. producten of diensten	96	4,00	1,00	5,00	3,7188	,92569
4. We verzamelen op informele wijze marktinformatie over onze bedrijfstak (onder meer door lunches en/of gesprekken met klanten, leveranciers en andere partijen)	96	4,00	1,00	5,00	3,9583	,98319
5. Informatie over onze concurrenten wordt in ons bedrijf onafhankelijk van elkaar door verschillende afdelingen verkregen	96	4,00	1,00	5,00	3,7083	,89345
6. We zijn in ons bedrijf snel in het vaststellen van fundamentele verschuivingen in onze industrie, zoals concurrentie, technologie, wet- en regelgeving e.d.	96	4,00	1,00	5,00	3,6667	,95880
7. We bespreken regelmatig met onze klanten de gevolgen van veranderingen in voor hen relevante omgevings- factoren, zoals concurrentie, technologie, wet- en regelgeving e.d.	96	4,00	1,00	5,00	3,5104	1,02592
Mean scores of all outcomes of Market Orientation intelligence generation.	96	3,00	2,00	5,00	3,7158	,66248
Valid N (listwise)	96					

Table 13 Descriptive Statistics of Market Orientation Dissemination

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. Veel 'wandelgang' gesprekken in ons bedrijf gaan over de strategie en tactieken van onze concurrenten	96	4	1	5	2,91	,996
2. We hebben tenminste eenmaal per kwartaal overleg met verschillende afdelingen over markt-ontwikkelingen en trends	96	4,00	1,00	5,00	3,1146	1,25547
3. Onze marketing-mensen bespreken toekomstige klant-behoeften met andere afdelingen binnen onze organisatie	96	4,00	1,00	5,00	3,1979	1,18428
4. In ons bedrijf verspreiden we intern regelmatig rapportages of nieuws- brieven met informatie over onze klanten	96	4,00	1,00	5,00	2,9271	1,15389
5. Wanneer er iets belangrijks gebeurt bij belangrijke klanten van ons bedrijf of in relevante markten dan weet iedereen binnen de organisatie dat snel	96	4,00	1,00	5,00	3,7187	1,00214
6. Resultaten over klanttevreden-heidsmetingen worden regelmatig op alle niveaus binnen ons bedrijf verspreid	96	4,00	1,00	5,00	3,0208	1,22241
7. Er is binnen ons bedrijf veel communicatie tussen marketing en productie over marktontwikkelingen	96	4,00	1,00	5,00	3,0938	1,06700
Mean scores of all outcomes of Market Orientation intelligence dissemination.	96	3,71	1,00	4,71	3,1399	,76693
Valid N (listwise)	96					

Table 14 Descriptive Statistics of Market Orientation Responsiveness

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. Verschillende afdelingen binnen ons bedrijf bespreken met regelmaat veranderingen in markt-omstandigheden en de plannen hoe hierop gereageerd wordt	96	4,00	1,00	5,00	3,2292	1,03088
2. In ons bedrijf reageren we snel op acties van belangrijke concurrenten die gericht zijn op onze klanten	96	4,00	1,00	5,00	3,1667	1,01221
3. Onze producten en diensten zijn afgestemd op klant- behoeften, en niet op interne politiek	96	4,00	1,00	5,00	3,9687	,96740
4. We reageren in ons bedrijf adequaat op klachten van klanten en zorgen dat deze correct en naar tevredenheid worden afgehandeld	96	4,00	1,00	5,00	4,1563	,83764
5. Indien we bemerken dat klanten wijzigingen in het product of diensten-aanbod wensen, dan dragen alle afdelingen actief bij aan een oplossing	96	4,00	1,00	5,00	3,7292	,96768
Mean scores of all outcomes of Market Orientation responsiveness.	96	2,80	2,20	5,00	3,6500	,66807
Valid N (listwise)	96					

Table 15 Descriptive Statistics of Marketing Function customer-product connection

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. De marketing- afdeling/ marketing verantwoor-delijke(n) van ons bedrijf slaagt/slagen erin om de behoeften van de klant om te zetten in technische specificaties voor nieuwe producten/services	96	4,00	1,00	5,00	3,3021	1,02721
2. Ik heb er vertrouwen in dat de marketingafdeling/market ing verantwoordelijke(n) van ons bedrijf in staat is/zijn om de behoeften van klanten te vertalen naar technische specificaties voor nieuwe producten of diensten	96	4,00	1,00	5,00	3,4479	1,03486
3. Binnen ons bedrijf ligt het vermogen om de behoeften van de klant om te zetten in technische specificaties voor nieuwe producten/services, bij de marketing- afdeling/ marketing verantwoordelijke persoon/ personen	96	4,00	1,00	5,00	2,9479	1,20848
4. De marketing-afdeling/ marketing verantwoordelijke(n) van ons bedrijf heeft/hebben de kennis en de vaardigheden om de behoeften van de klant om te zetten in technische specificaties	96	4,00	1,00	5,00	3,2917	1,11371
Mean scores of all outcomes of Marketing Function customer-product connection.	96	4,00	1,00	5,00	3,2474	,91587
Valid N (listwise)	96					

Table 16 Descriptive Statistics of Marketing Function customer-financial accountability connection

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. De marketing- afdeling/ marketing verant- woordelijke(n) van ons bedrijf slaagt/slagen erin om klanttevredenheid en klanten- binding te combineren met financiële resultaten	96	4,00	1,00	5,00	3,2083	1,01480
2. Ik heb er vertrouwen in dat de marketing- afdeling/ marketing verantwoor- delijke(n) van ons bedrijf in staat is/zijn om klanttevredenheid en klantenbinding te vertalen naar financiële resultaten	96	4,00	1,00	5,00	3,3438	1,01388
3. Binnen ons bedrijf ligt het vermogen om klanttevredenheid en klantbinding om te zetten in financiële resultaten, bij de marketingafdeling/market ing verantwoordelijke persoon/personen	96	4,00	1,00	5,00	2,8750	1,05880
4. De marketing- afdeling/ marketing verant- woordelijke(n) van ons bedrijf heeft/hebben de kennis en de vaardigheden om klanttevredenheid en klantenbinding om te zetten in financiële resultaten	96	4,00	1,00	5,00	3,1875	,98742
Mean scores of all outcomes of Marketing Function customer- financial accountability connection.	96	4,00	1,00	5,00	3,1536	,91362
Valid N (listwise)	96					

Table 17 Descriptive Statistics of Marketing Function customer-service quality connection

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
1. De marketing-afdeling/ marketing verantwoordelijke(n) van ons bedrijf slaagt/slagen erin om de behoeften van de klant duidelijk te maken aan de medewerkers die contact hebben met klanten	96	4,00	1,00	5,00	3,3021	1,01691
2. Ik heb er vertrouwen in dat de marketingafdeling/marketing verantwoordelijke(n) van ons bedrijf in staat is/zijn om de behoeften van de klant duidelijk te maken aan de medewerkers die contact hebben met klanten	96	4,00	1,00	5,00	3,4167	1,05298
3. Binnen ons bedrijf ligt het vermogen om klantbehoeften duidelijk te maken aan medewerkers die contact hebben met klanten, bij de marketingafdeling/marketing verantwoordelijke persoon/personen	96	4,00	1,00	5,00	3,1458	1,14229
4. De marketing-afdeling/ marketing verantwoordelijke(n) van ons bedrijf heeft/hebben de kennis en de vaardigheden om klantbehoeften duidelijk te maken aan medewerkers die contact hebben met klanten	96	4,00	1,00	5,00	3,4896	,98403
Mean scores of all outcomes of Marketing Function customer-service quality connection.	96	4,00	1,00	5,00	3,3385	,95351
Valid N (listwise)	96					

Respondents who responded with a 6 are deleted since 6 stands for ‘not inapplicable’.

Table 18 Descriptive Statistics of Business Performance

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SUM_BP5_profitmarkets hare	82	4,00	10,00	7,3415	1,38082
SUM_MO	96	37,00	89,00	66,2396	11,59196
SUM_MF	96	12,00	60,00	38,9583	10,10879
SUM_BP5	80	8,00	20,00	14,6250	2,67844
Mean scores of all outcomes of Business Performance cost.	82	1,50	4,50	3,3293	,71241
Mean scores of all outcomes of Business Performance sales.	84	2,00	5,00	3,6310	,69905
Mean scores of all outcomes of Business Performance profitability.	83	2,00	5,00	3,4880	,65786
Mean scores of all outcomes of Business Performance marketshare.	73	1,50	5,00	3,5616	,71173
Mean scores of all outcomes of Business Performance indicators.	70	2,13	4,75	3,5196	,51059
1. Kosten	84	2,00	5,00	3,2500	,75849
2. Verkoop- resultaten	86	2,00	5,00	3,3953	,83001
3. Winst- gevendheid	86	2,00	5,00	3,2791	,76160
4. Markt-aandeel	75	2,00	5,00	3,4267	,70084
1. Kosten	87	1,00	5,00	3,4368	,93636
2. Verkoop- resultaten	88	2,00	5,00	3,8409	,88261
3. Winst- gevendheid	88	2,00	5,00	3,7159	,80156
4. Markt-aandeel	83	1,00	5,00	3,6386	,83488
Valid N (listwise)	70				

Table 19 Descriptive Statistics of Market Orientation, Marketing Function, and Business Performance

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Mean scores of all outcomes of Market Orientation indicators.	96	1,99	4,71	3,5019	,60427
Mean scores of all outcomes of Marketing Function indicators.	96	1,00	5,00	3,2465	,84240
BP_G_mean	72	2,25	4,50	3,3368	,52097
BP_H_mean	80	2,00	5,00	3,6563	,66961
BP_mean	70	2,13	4,75	3,5196	,51059
BP_level	70	4,52	22,56	12,6449	3,57691
MO_level	96	3,96	22,22	12,6245	4,20581
MF_level	96	1,00	25,00	11,2422	5,10992
SUM_BP5_profitmarketshare	82	4,00	10,00	7,3415	1,38082
SUM_MO	96	37,00	89,00	66,2396	11,59196
SUM_MF	96	12,00	60,00	38,9583	10,10879
SUM_BP5	80	8,00	20,00	14,6250	2,67844
Valid N (listwise)	70				

Appendix 5 Pearson Correlations

Table 20 Pearson Correlation MO_level & SUM_MO

Correlations[b]

		MO_level	Mean scores of all outcomes of Market Orientation intelligence generation.	Mean scores of all outcomes of Market Orientation intelligence dissemination.	Mean scores of all outcomes of Market Orientation responsiveness.
MO_level	Pearson Correlation	1	,853**	,890**	,831**
	Sig. (2-tailed)		,000	,000	,000
Mean scores of all outcomes of Market Orientation intelligence generation.	Pearson Correlation	,853**	1	,663**	,563**
	Sig. (2-tailed)	,000		,000	,000
Mean scores of all outcomes of Market Orientation intelligence dissemination.	Pearson Correlation	,890**	,663**	1	,625**
	Sig. (2-tailed)	,000	,000		,000
Mean scores of all outcomes of Market Orientation responsiveness.	Pearson Correlation	,831**	,563**	,625**	1
	Sig. (2-tailed)	,000	,000	,000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=96

Correlations[b]

		Mean scores of all outcomes of Market Orientation intelligence generation.	Mean scores of all outcomes of Market Orientation intelligence dissemination.	Mean scores of all outcomes of Market Orientation responsiveness.	SUM_MO
Mean scores of all outcomes of Market Orientation intelligence generation.	Pearson Correlation	1	,663**	,563**	,870**
	Sig. (2-tailed)		,000	,000	,000
Mean scores of all outcomes of Market Orientation intelligence dissemination.	Pearson Correlation	,663**	1	,625**	,909**
	Sig. (2-tailed)	,000		,000	,000
Mean scores of all outcomes of Market Orientation responsiveness.	Pearson Correlation	,563**	,625**	1	,803**
	Sig. (2-tailed)	,000	,000		,000
SUM_MO	Pearson Correlation	,870**	,909**	,803**	1
	Sig. (2-tailed)	,000	,000	,000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=96

Table 21 Pearson Correlation MF_Level & SUM_MF

Correlations

		Mean scores of all outcomes of Marketing Function customer-product connection.	Mean scores of all outcomes of Marketing Function customer-financial accountability connection.	Mean scores of all outcomes of Marketing Function customer-service quality connection.	MF_level
Mean scores of all outcomes of Marketing Function customer-product connection.	Pearson Correlation	1	,685**	,711**	,858**
	Sig. (2-tailed)		,000	,000	,000
	N	96	96	96	96
Mean scores of all outcomes of Marketing Function customer-financial accountability connection.	Pearson Correlation	,685**	1	,813**	,909**
	Sig. (2-tailed)	,000		,000	,000
	N	96	96	96	96
Mean scores of all outcomes of Marketing Function customer-service quality connection.	Pearson Correlation	,711**	,813**	1	,912**
	Sig. (2-tailed)	,000	,000		,000
	N	96	96	96	96
MF_level	Pearson Correlation	,858**	,909**	,912**	1
	Sig. (2-tailed)	,000	,000	,000	
	N	96	96	96	96

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations[b]

		Mean scores of all outcomes of Marketing Function customer-product connection.	Mean scores of all outcomes of Marketing Function customer-financial accountability connection.	Mean scores of all outcomes of Marketing Function customer-service quality connection.	SUM_MF
Mean scores of all outcomes of Marketing Function customer-product connection.	Pearson Correlation	1	,685**	,711**	,878**
	Sig. (2-tailed)		,000	,000	,000
Mean scores of all outcomes of Marketing Function customer-financial accountability connection.	Pearson Correlation	,685**	1	,813**	,916**
	Sig. (2-tailed)	,000		,000	,000
Mean scores of all outcomes of Marketing Function customer-service quality connection.	Pearson Correlation	,711**	,813**	1	,929**
	Sig. (2-tailed)	,000	,000		,000
SUM_MF	Pearson Correlation	,878**	,916**	,929**	1
	Sig. (2-tailed)	,000	,000	,000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=96

Table 22 Pearson Correlation SUM_BP5_profitmarketshare

Correlations[b]

		SUM_BP5_profitmarketshare	SUM_BP5
SUM_BP5_profitmarketshare	Pearson Correlation	1	,896**
	Sig. (2-tailed)		,000
SUM_BP5	Pearson Correlation	,896**	1
	Sig. (2-tailed)	,000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=80

Appendix 6 Regression Assumptions (H1)

Six assumptions must be made for regression. The assumptions are:

1. Linearity
2. Normality
3. Homoscedasticity (constant variance of the error term)
4. Uncorrelated error terms
5. Independence of the error term
6. Multicollinearity

The first assumption, linearity, is checked by looking at the scatter plot with a fit line. By looking at the MO_Level and BP_Level a slight positive fit line was found. This indicates slightly positive linearity between the two constructs.

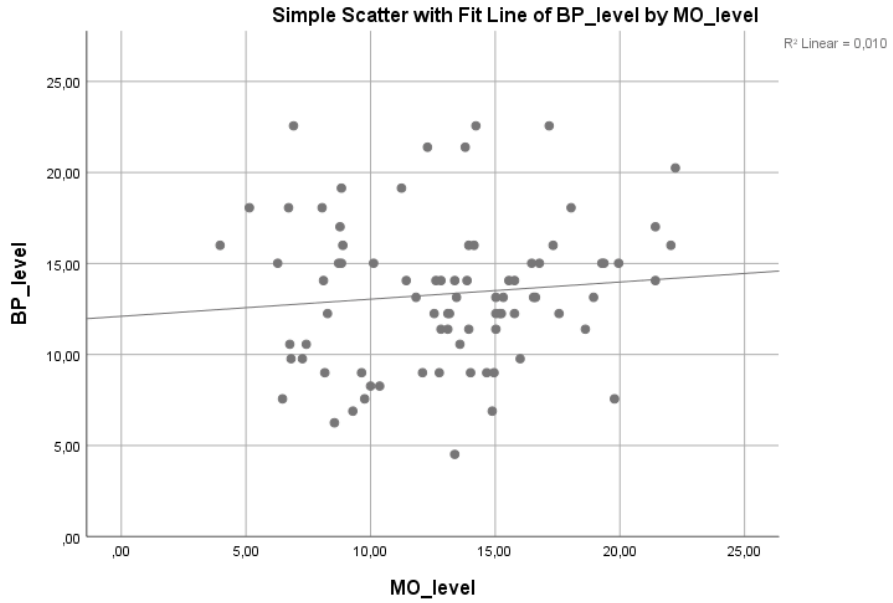

Figure 3 Scatter Plot Linearity Assumption (H1)

After achieving the first assumption, the second assumption, normality, is achieved by looking at the P-Plot and the Histogram. Furthermore, were the Kolmogorov-Smirnov and Shapiro-Wilk tests

performed to be sure that the normality assumption is met. As can be seen below, both the graphs and the two normality tests prove that there is normality. In the case of the two normality tests, the p-value should be above 0.05 and that is the case.

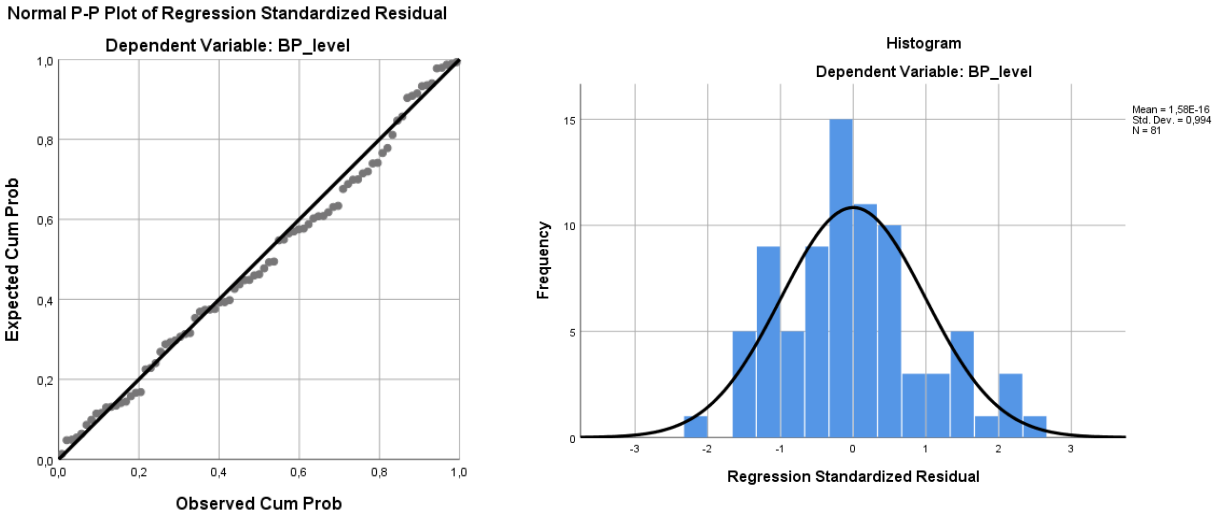

Figure 4 P-P Plot Regression & Histogram Normality Assumption (H1)

Table 23 Normality Assumption H1 (Kolmogorov-Smirnov & Shapiro-Wilk test)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
BP_level	,085	70	,200*	,976	70	,191
MO_level	,080	96	,146	,981	96	,168
MF_level	,083	96	,098	,980	96	,145

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

For the third assumption, a P-P plot of the residuals is used, see the figure below, to see if there is a pattern. This is not the case and that means that this assumption is also met.

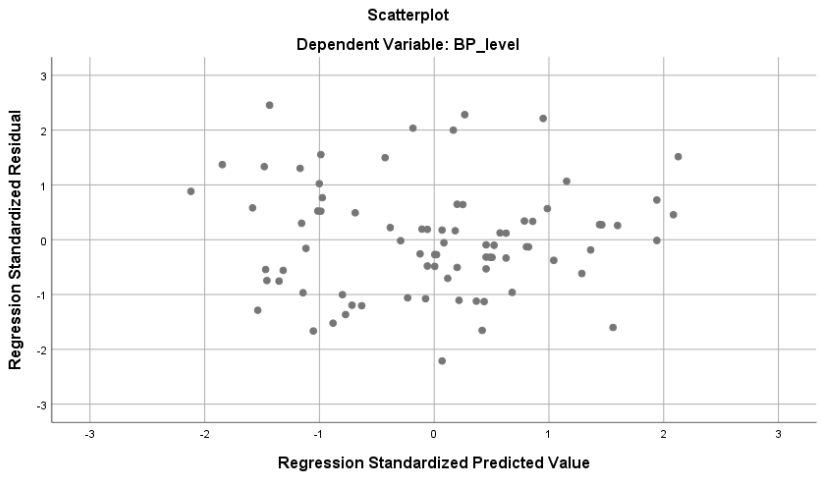

Figure 5 Scatterplot Regression Homoscedasticity Assumption H1

As mentioned earlier, the fourth assumption, uncorrelated error terms, is achieved by not using time series so this should not be further investigated.

The independence of the error term is difficult to prove, therefore a theoretical reason is given. The reason that the error term is independence is that theorical proven theory have been used for the questionnaire. Since these theories have already proven themselves, even if they are combined and used in one theoretical structure, it can be assumed that there is an independent error term.

For the last assumption, multicollinearity, the VIF score was checked. This score should be below 5 and this is the case, as can be seen below.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	9,493	1,446		6,567	,000		
	MO_level	,231	,102	,266	2,276	,026	1,000	1,000

a. Dependent Variable: BP_level

Figure 6 VIF Score Regression Multicollinearity Assumption H1

All six assumptions have been checked and met. The results of testing H1 can be found in section 4.2 on page 19.

Appendix 7 Regression Assumptions (H2)

For the hypothesis H2, three constructs are related, two independent constructs (market orientation and marketing function) and one dependent construct (business performance compared to five years ago with only the factor profitability and market share). Since there are now multiple constructs, all six regression assumptions must be fulfilled again.

1. Linearity
2. Normality
3. Homoscedasticity (constant variance of the error term)
4. Uncorrelated error terms
5. Independence of the error term
6. Multicollinearity

The first assumption, linearity, is also here checked by looking at a partial regression plot. By looking at the MO_Level and BP5_profitmarketshare a slight positive line was found. This indicates slightly positive linearity between the two constructs. This same positive line can be found by looking at the constructs MF_level and BP5_profitmarketshare. So, it can be stated that there is linearity between the constructs.

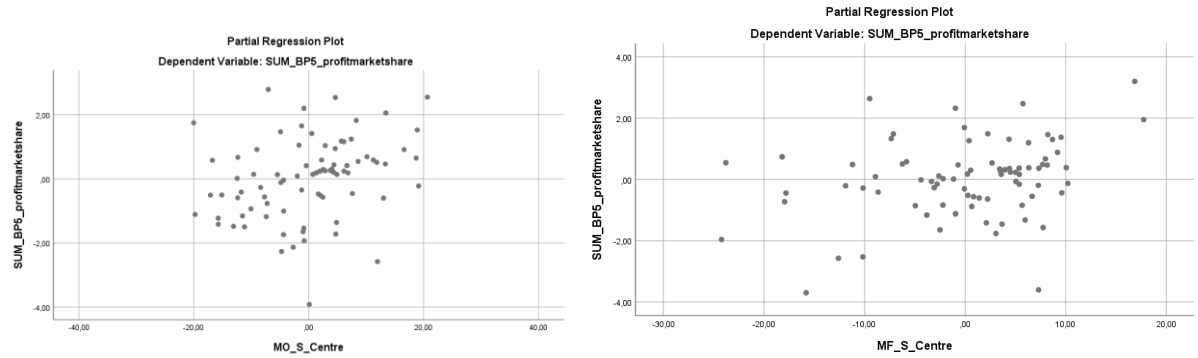

Figure 7 Scatter Plot Linearity Assumption (H2)

So, the first assumption has been reached, now is it time to achieve the second assumption, normality, by looking at the P-Plot and the Histogram. As can be seen below, both graphs prove that there is normality. To be sure, the Kolmogorov-Smirnov and Shapiro-Wilk test were performed. In the case of the two normality tests, the p-value should be above 0.05 and that is the not case for the constructs SUM_BP5_profitmarketshare and MF_S_Centre. Skewness is also checked to see if this normality case could lead to a problem, this was not the case. The skewness is in two cases between -0.5 and 0, which means that the distribution is approximately symmetric and in once case -0.6, which means that the distribution is moderately skewed, but since this value is also close to -0.5, this not a problem for this research.

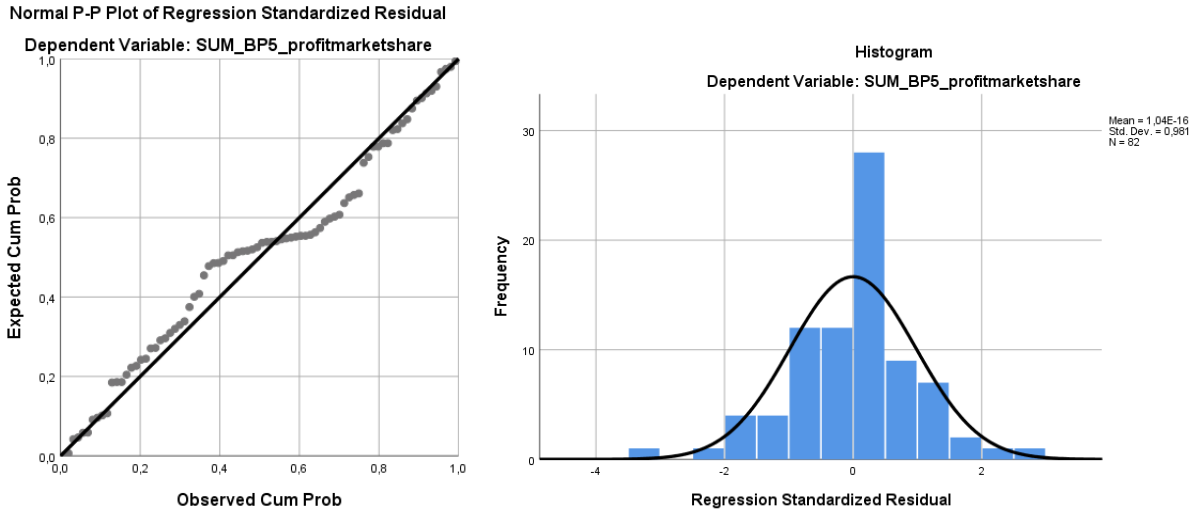

Figure 8 P-P Plot Regression & Histogram Normality Assumption (H2)

Table 24 Normality Assumption H2 (Kolmogorov-Smirnov & Shapiro-Wilk test)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SUM_BP5_profitmarketshare	,208	82	,000	,927	82	,000
MO_S_Centre	,082	96	,109	,983	96	,234
MF_S_Centre	,139	96	,000	,956	96	,003

a. Lilliefors Significance Correction

Table 25 Descriptive Statistics (Skewness H2)

Descriptives

			SUM_BP5_profitmarketshare	MO_S_Centre	MF_S_Centre
Mean		Statistic	7,3415	,0000	,0000
		Std. Error	,15249	1,18310	1,03172
95% Confidence Interval for Mean	Lower Bound	Statistic	7,0381	-2,3488	-2,0482
	Upper Bound	Statistic	7,6449	2,3487	2,0483
5% Trimmed Mean		Statistic	7,3794	,0498	,3195
Median		Statistic	8,0000	1,7604	1,0417
Variance		Statistic	1,907	134,374	102,188
Std. Deviation		Statistic	1,38082	11,59196	10,10879
Minimum		Statistic	4,00	-29,24	-26,96
Maximum		Statistic	10,00	22,76	21,04
Range		Statistic	6,00	52,00	48,00
Interquartile Range		Statistic	2,00	17,75	11,75
Skewness		Statistic	-,468	-,124	-,636
		Std. Error	,266	,246	,246
Kurtosis		Statistic	,206	-,559	,126
		Std. Error	,526	,488	,488

Also here is for the third assumption a P-P plot of the residuals used to see if there is a pattern. This is not the case and that means that this assumption is also met.

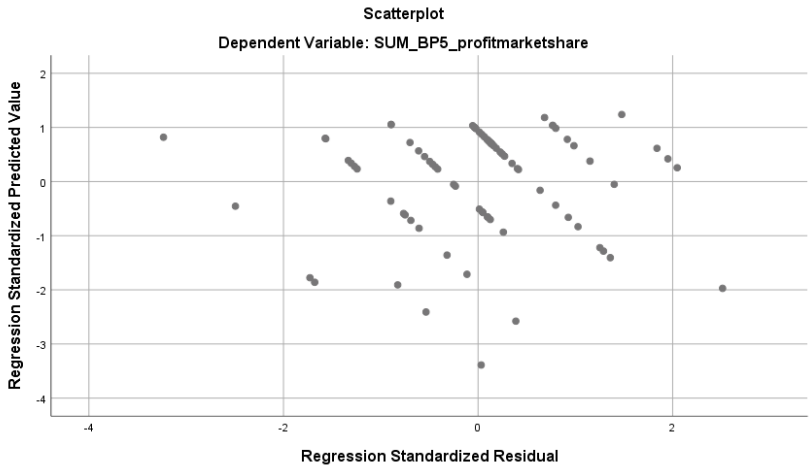

Figure 9 Scatterplot Regression Homoscedasticity Assumption H2

As mentioned earlier, the fourth assumption, uncorrelated error terms, is achieved by not using time series so this should not be further investigated since no time series were used.

The independence of the error term is still difficult to prove, therefore it is also here a theoretical reason is given, which is the same reason as given by the assumptions for H1. The reason that the error term is independence is that theorical proven theories and have been used for the questionnaire. Since these theories have already proven themselves, even if they are combined and used in one theoretical structure, it can be assumed that there is an independent error term.

For the last assumption, multicollinearity, the VIF score was checked. This score should be below 5 and this is the case because all constructs score is between 1 and 1.5, which means that this assumption is also met. It was first above 5 when the SUM scores were used, but after centralizing all scores, the VIF dropped to below 5.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-2,620	3,467		-,756	,452					
	SUM_MO	,126	,053	1,012	2,383	,020	,408	,260	,232	,053	18,985
	SUM_MF	,195	,087	1,352	2,249	,027	,414	,247	,219	,026	38,024
	MO_MF_S	-,002	,001	-1,577	-1,809	,074	,453	-,201	-,176	,012	80,023

a. Dependent Variable: SUM_BP5_profitmarketshare

Figure 10 VIF Score Regression Multicollinearity Assumption H2 (where the VIF were above 5)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	7,394	,148		49,815	,000					
	MO_S_Centre	,037	,014	,295	2,631	,010	,408	,286	,257	,756	1,324
	MF_S_Centre	,043	,016	,297	2,663	,009	,414	,289	,260	,763	1,311
	MOMF_S	-,002	,001	-,179	-1,809	,074	-,086	-,201	-,176	,966	1,036

a. Dependent Variable: SUM_BP5_profitmarketshare

Figure 11 VIF Score Regression Multicollinearity Assumption H2

Also here, all six assumptions have been checked and met. The results of testing H2 – H4 can be found from section 4.3 on page 21.

Appendix 8 Regression Assumptions (H3 & H4)

For the hypotheses H3 and H4, three constructs are related, with the same two independent constructs (market orientation and marketing function) and the same one dependent construct (business performance compared to five years ago with only the factor profitability and market share). Here too, all six regression assumptions must be fulfilled again.

1. Linearity
2. Normality
3. Homoscedasticity (constant variance of the error term)
4. Uncorrelated error terms
5. Independence of the error term
6. Multicollinearity

The same methods are used for all assumptions as in the earlier two assumption tests.

The first assumption, linearity, is a partial regression plot used. The partial regression plot shows slight positive linearity on both graphs with the constructs, SUM_MO – SUM_BP5_profitmarketshare and SUM_MF – SUM_BP5_profitmarketshare. It can, therefore, be stated that there is linearity between the constructs.

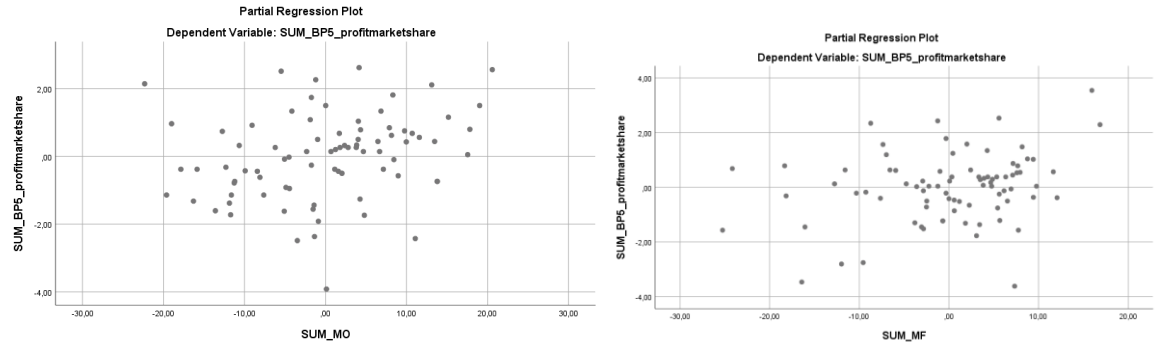

Figure 12 Scatter Plot Linearity Assumption (H3 & H4)

The P-Plot and Histogram were used to test the second assumption, normality. It seems like that there is normality, but to be sure, the Kolmogorov-Smirnov and Shapiro-Wilk tests have also been carried out here. This shows that there is no normality in the case of SUM_MO since the p-value is higher than 0.05. The other constructs exhibit normality. To see if this a problem, skewness was checked. The skewness of SUM_MO is -0.04, which is very low, meaning that the distribution is approximately symmetric. This solves the normality problem and it can be assumed that all three constructs are normally distributed.

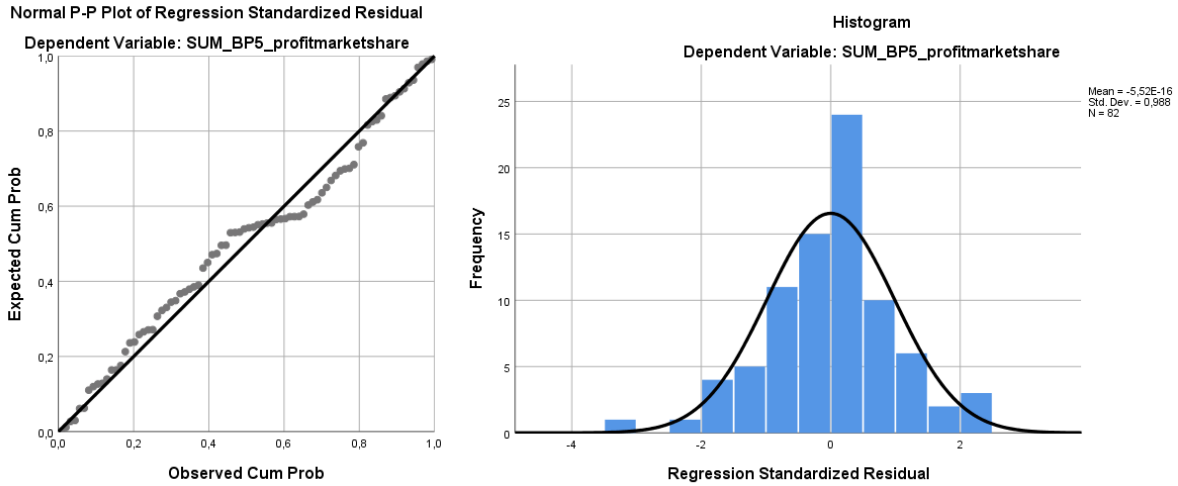

Figure 13 P-P Plot Regression & Histogram Normality Assumption (H3 & H4)

Table 26 Normality Assumption H3 & H4 (Kolmogorov-Smirnov & Shapiro-Wilk test)

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SUM_BP5_profitmarketshare	,208	82	,000	,927	82	,000
SUM_MO	,081	82	,200*	,973	82	,076
SUM_MF	,138	82	,001	,953	82	,004

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 27 Descriptive Statistics (Skewness H3 & H4)

Descriptives

			SUM_BP5_profitmarketshare	SUM_MO	SUM_MF
Mean		Statistic	7,3415	67,5122	39,3780
		Std. Error	,15249	1,22459	1,05931
95% Confidence Interval for Mean	Lower Bound	Statistic	7,0381	65,0756	37,2703
	Upper Bound	Statistic	7,6449	69,9487	41,4857
5% Trimmed Mean		Statistic	7,3794	67,4322	39,6707
Median		Statistic	8,0000	68,5000	41,0000
Variance		Statistic	1,907	122,969	92,016
Std. Deviation		Statistic	1,38082	11,08914	9,59249
Minimum		Statistic	4,00	46,00	15,00
Maximum		Statistic	10,00	89,00	60,00
Range		Statistic	6,00	43,00	45,00
Interquartile Range		Statistic	2,00	17,25	11,00
Skewness		Statistic	-,468	-,040	-,621
		Std. Error	,266	,266	,266
Kurtosis		Statistic	,206	-,754	,259
		Std. Error	,526	,526	,526

For the third assumption, homoscedasticity, the P-plot of the residuals was analyzed to find a pattern, this was not the case, meaning that this assumption is achieved.

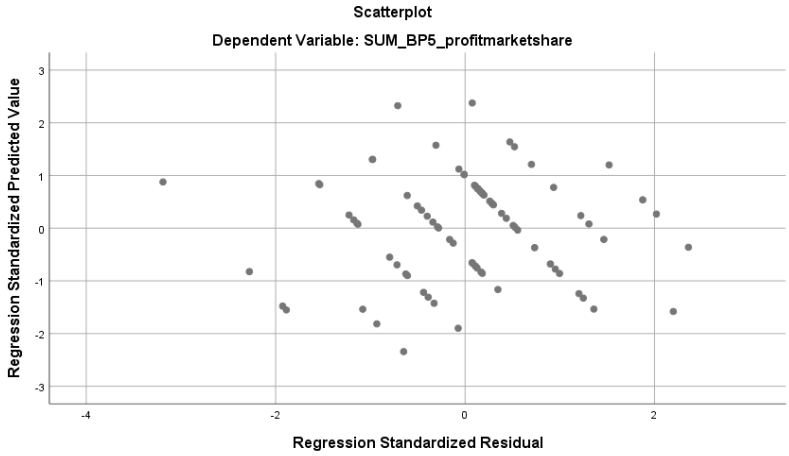

Figure 14 Scatterplot Regression Homoscedasticity Assumption H3 & H4

The fourth assumption is met by not using time series, as mentioned earlier.

The fifth assumption is still difficult to prove. That is why the same theoretical reason is given, as by the previous two hypotheses, which is that the error term is independence is because theoretical proven theories and questions have been used to test the market orientation, marketing function, and business performance. Because these theories have already proven themselves, even if they are combined and used in one theoretical structure, it can be assumed that there is an independent error term.

The VIF score was checked for the last assumption. These scores were between 1 and 1.5, which means that this assumption is achieved because the score must be lower than 5.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,459	,861		4,015	,000					
	SUM_MO	,034	,014	,271	2,398	,019	,408	,260	,237	,767	1,305
	SUM_MF	,041	,016	,283	2,510	,014	,414	,272	,248	,767	1,305

a. Dependent Variable: SUM_BP5_profitmarketshare

Figure 15 VIF Score Regression Multicollinearity Assumption H3 & H4

Appendix 9 Regressions H1

Table 28 Model Summary Hypothesis 1 (Regression 2) with MO_mean & BP_mean

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,265[a]	,070	,056	,49599

a. Predictors: (Constant), Mean scores of all outcomes of Market Orientation indicators.

b. Dependent Variable: BP_mean

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,656	,386		6,877	,000
	Mean scores of all outcomes of Market Orientation indicators.	,237	,105	,265	2,263	,027

a. Dependent Variable: BP_mean

Table 29 Model Summary Hypothesis 1 (Regression 3) with MO_level, MF_level, and BP_level

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,337[a]	,113	,087	3,41817

a. Predictors: (Constant), MF_level, MO_level

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	8,985	1,451		6,193	,000		
	MO_level	,121	,118	,139	1,025	,309	,723	1,382
	MF_level	,172	,096	,242	1,791	,078	,723	1,382

a. Dependent Variable: BP_level

Appendix 10 Regressions H2

Table 30 Model Summary Hypothesis 2 (Regression 1) with MO_S_Centre, MF_S_Centre, MOMF_S, and SUM_BP5_profitmarketshare

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,509[a]	,259	,230	1,21138	,259	9,081	3	78	,000

a. Predictors: (Constant), MOMF_S, MF_S_Centre, MO_S_Centre

b. Dependent Variable: SUM_BP5_profitmarketshare

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39,979	3	13,326	9,081	,000[b]
	Residual	114,460	78	1,467		
	Total	154,439	81			

a. Dependent Variable: SUM_BP5_profitmarketshare

b. Predictors: (Constant), MOMF_S, MF_S_Centre, MO_S_Centre

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	7,394	,148		49,815	,000					
	MO_S_Centre	,037	,014	,295	2,631	,010	,408	,286	,257	,756	1,324
	MF_S_Centre	,043	,016	,297	2,663	,009	,414	,289	,260	,763	1,311
	MOMF_S	-,002	,001	-,179	-1,809	,074	-,086	-,201	-,176	,966	1,036

a. Dependent Variable: SUM_BP5_profitmarketshare

Table 31 Model Summary Hypothesis 2 (Regression 2) with MO_S_Centre and MF_S_Centre

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,550[a]	,303	,295	9,73237	,303	40,772	1	94	,000

a. Predictors: (Constant), MF_S_Centre

b. Dependent Variable: MO_S_Centre

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3861,894	1	3861,894	40,772	,000[b]
	Residual	8903,596	94	94,719		
	Total	12765,490	95			

a. Dependent Variable: MO_S_Centre

b. Predictors: (Constant), MF_S_Centre

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-3,769E-5	,993		,000	1,000					
	MF_S_Centre	,631	,099	,550	6,385	,000	,550	,550	,550	1,000	1,000

a. Dependent Variable: MO_S_Centre

Appendix 11 Regressions H3 & H4

Table 32 Model Summary Hypothesis 3 & 4 (Regression 1) with SUM_MF, SUM_MO and SUM_BP5_profitmarketshare

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,477[a]	,228	,208	1,22867

a. Predictors: (Constant), SUM_MF, SUM_MO

b. Dependent Variable: SUM_BP5_profitmarketshare

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	35,178	2	17,589	11,651	,000[b]
	Residual	119,261	79	1,510		
	Total	154,439	81			

a. Dependent Variable: SUM_BP5_profitmarketshare

b. Predictors: (Constant), SUM_MF, SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3,459	,861		4,015	,000					
	SUM_MO	,034	,014	,271	2,398	,019	,408	,260	,237	,767	1,305
	SUM_MF	,041	,016	,283	2,510	,014	,414	,272	,248	,767	1,305

a. Dependent Variable: SUM_BP5_profitmarketshare