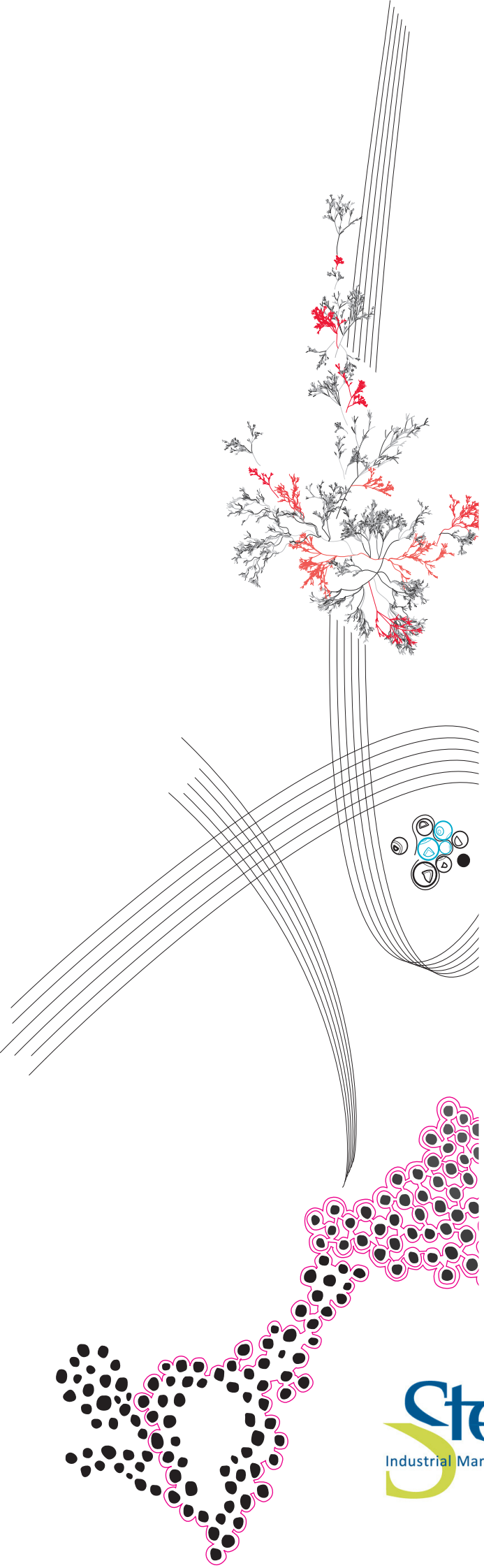

Master Thesis

The Relationship between Marketing Function Development and Market Orientation on Firm Performance of Manufacturing Business-to-Business SMEs

Lea Möllering
MSc. Business Administration – Strategic Marketing & Digital Businesses

Supervisors:
First supervisor: dr. R.P.A. Loohuis
Second supervisor: ir. B. Kijl

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University of Twente

Abstract

It is generally assumed that a company's marketing function and market orientation has a positive impact on firm performance. However, small and medium-sized B2B enterprises in the manufacturing industry seem to abandon the effective marketing function development. To further investigate this finding, the relationship between marketing function development and market orientation and how this influences a company's performance is investigated. Additionally, advantages and disadvantages of having a highly-developed marketing function were found as well as reasons why marketing is challenging in small and medium sized manufacturing B2B firms.

To investigate this research problem, a pre-study was done by conducting seven interviews with marketing managers of B2B firms in the manufacturing industry. Thereafter, a questionnaire was published, and the 36 responses were analyzed through SPSS and ADANCO.

The findings indicate a positive relationship between market orientation and marketing function development as well as positive relationships with firm performance in one construct or split into two. The firm performance indicators had to be split to get a statistically significant outcome, meaning that the performance construct consists of profitability and market share measures. When having a high level of marketing function development as well as a high level of market orientation, the level of firm performance increases the most.

Marketing is seen as a valuable act to increase a company's customer base but there are many reasons why companies decide against implementing a highly-developed marketing function. One of the most common reasons is that companies do not want to grow any more, because they are reaching a capacity limit. In order to get the highest level of firm performance that is reachable through marketing, a company should both be market oriented as well as having a highly-developed marketing function.

Keywords: Market Orientation, Marketing Function Development, Firm Performance, Small and Medium-Sized Enterprises, B2B, Manufacturing Industry, Marketing

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Introduction

In the era of industry 4.0, especially the need of adaption to new customer demand increases for B2B companies. This is due to the rapidly changing technology in the manufacturing industry. Traditionally, marketing has been concerned with the adoption of customer needs and delivering customer value (Anderson and Narus, 1998). Companies that are market oriented and have a fully developed marketing function indeed perform better in terms of efficiency and effectiveness as opposed to companies who are product orientated (Slater and Narver, 1995; Jaworski and Kohli, 1993; Moorman and Rust, 1999). This means that there should be a positive relationship between marketing function development and market orientation on firm performance. Furthermore, Moorman and Rust (1999, pp. 180) state that "the marketing function can and should coexist with a market orientation and that the effectiveness of a market orientation depends on the presence of strong function that includes marketing.". The relation between market orientation and the marketing function is thus mutually constitutive. This means that there is a relation from market orientation to marketing function and from the marketing function to market orientation. Therefore, market orientation and the marketing function go hand in hand. The marketing function is supposed to make the link between the company and the customer easier to handle.

However, companies in the manufacturing industry seem to neglect developing a more effective marketing function. It is important to find out why these findings occur to teach companies in practice about advantages of having a highly-developed marketing function and why being market oriented is effective. This is why this thesis will evaluate the existence of the relationships between marketing function development, market orientation and firm performance. This fully developed marketing function involves clear connections between customer and market, finance, operations and research and development (Day, 1994; Moorman and Rust, 1999). By properly establishing these connections and coordinating these, a competitive performance can be created in the present and future. A pre study was conducted in line with the engaged scholarship approach by Van de Ven (2007). This pre study was done by conducting interviews with manufacturing firms to understand to what degree both factors are influencers of firm performance in terms of sales, costs, profitability and market share. It resulted in manufacturing B2B SME marketing managers being more focused on market orientation than on having a highly-developed marketing function. Accordingly, it was found that companies think they know what their customers need and where the market is going but that is mostly all of the marketing activities that they do.

Manufacturing companies think that it is highly important for companies in this sector and of this size to engage in marketing as well as being market oriented. However, testing if this importance is actually being put into practice, a bigger sample needs to be evaluated. This results in the first part of the research question of: "To what extent is there a link between Marketing Function development and Market Orientation?". Nowadays, there is plenty of knowledge about theories considering B2B marketing on how to gather information on customer needs and interactions and other useful strategies on industrial marketing. Nonetheless, companies still struggle implementing those skills in practice

(Lilien, 2016). But why does it matter to have a well-implemented marketing function and what are its key components? Having a well-developed marketing function is supposed to increase a company's competitive advantage (Morgan and Piercy, 1996). Therefore, it is wise for companies to have a well-developed marketing function. When talking to a managing director of a manufacturing SME, he said: "We tried doing marketing, but we didn't see financial results, so we stopped." (Anonymous B, 2019). It seems as though there is a common thought that marketing activities might not increase firm performance even though many researchers did find a positive relationship. This results in the final part of the research question of: "How does the relationship between Marketing Function development and Market Orientation affect firm performance?". Hypotheses are developed that investigate those relationships. One of the hypotheses concerns if a high level of marketing function development and a high level of market orientation indeed result in a high firm performance. This will also be checked with low and medium levels to see if both factors actually have the highest impact on firm performance together or separately.

Answering these questions will give further insights into advantages of developing a marketing function in a firm. This is interesting for managers to see, to potentially change their views of not implementing a well-developed marketing function into seeing advantages of the implementation. To answer the research question and verify the outcomes of the pre study that is in line with the engaged scholarship approach (Van de Ven, 2007), the gathered information from the questionnaires was analyzed in SPSS and ADANCO to evaluate the relationships between market orientation, marketing function development and performance. Both techniques are important due to the relationship between marketing function and market orientation. Before diving into explanations on marketing function development in manufacturing B2B companies, valuable relationships have to be explained.

This thesis contains six chapters based around the research question of "To what extent is there a link between Marketing Function development and Market Orientation? And how does the relationship between Marketing Function development and Market Orientation affect Firm Performance?". The first chapter guides the research and gives insights into the topic based on the pre study as well as the questions being answered in this paper. Then, a literature review will present the current knowledge on marketing function development and its relation towards market orientation and performance. There will also be sections on small and medium sized enterprises and their issues when facing marketing. After this chapter, a methodology section will present the structure of the data gathering in the qualitative and quantitative way. Following this, a result section on the statistical analyses outcomes focuses on presenting the findings of the investigations. The final chapters are interpreting the findings and giving insights into limitations as well as theoretical and practical implications for future research.

Literature review

Marketing in SMEs

Not only in B2C marketing but also in B2B marketing, there is a difference in how to do marketing depending on the size of the company. While big corporations usually have a well-established marketing department with many marketing specialists, small and medium-sized enterprises (SMEs) might not have the resources to do so. But let us first focus on B2B marketing in SMEs.

Business-to-business (B2B) marketing is "marketing of products to businesses or other organizations for use in production of goods, for use in general business operations (such as office supplies), or for resale to other consumers, such as a wholesaler selling to a retailer" (Grimsley, n.d.).

Marketing in SMEs has ever been a problem among practitioners as well as academics (Gilmore et al., 2001; Simpson et al., 2006). Marketing theories that are developed are often limited to larger companies which are then in return used in smaller businesses which results in marketing failures.

In this thesis, the B2B marketing will be focused on technical and manufacturing SMEs in the Netherlands and Germany. This is due to the lack of scientific research in this area.

A small or medium-sized enterprise has fewer than 250 employees and has an annual turnover of maximum 50 million € with a maximum of 43 million € of the annual balance sheet total (European Commission, 2016). In Europe, SMEs are considered to be the engine of the economy due to them creating more than 85% of new jobs. They tend to have little ability to change prices for products or services (Keh et al., 2006). Nine out of ten companies are SMEs, but they face many problems. Due to their deficiency in providing high resources such as financial resources, environmental regulations are more likely to influence them compared to bigger companies (European Commission, 2016). Some of their challenges will be described in the next section. SMEs are not only facing challenges in the environment such as competition and political crises but also challenges internally such as financial needs and innovation problems due to their limited resources (Kanibir et al., 2014).

Smaller companies can more easily adjust their activities and operations internally which gives them the opportunity to create a differentiated product that can be offered in a niche market (Cummins et al., 2000). This gives them a competitive advantage against larger companies that can compensate this loss through a larger marketing function. These adjustments are mostly based on market and marketing information that is gathered through different departments of an SME (O'Dwyer et al., 2009). Furthermore, a competitive advantage can be achieved by using approaches of added-value marketing. But added value marketing is not referred to. They are often seen as regular daily business activities directed towards customer satisfaction even though they are actual marketing activities (Gilmore et al., 1999).

A SME's marketing function is often related to sales and promotions only, which is due to small companies selling their products without planning their marketing strategies (Stokes, 2000). The

assemblage of sales and marketing together as one tries to extinguish the differences in the two concepts. While sales is focused on pushing products to the customer, marketing should be the strategic decision-making how to present a product or service. Therefore, two fundamentally different concepts are tried to put together when one would actually need a different mindset to work on both individually. Due to SMEs unique structures, they differ from conventional marketing of big corporations.

But how do SMEs "do" marketing?

For SMEs, a competitive advantage is important. Therefore, interactions in social contexts such as being present at trade fairs or participating in networking activities is key for increasing market intelligence that then potentially results in a competitive advantage for a firm (Gilmore et al., 2001). There is a move from traditional marketing activities such as the 4P or 7P model towards an importance of word-of-mouth and promotion established in the 4I model of information, identification, innovation and interaction (Stokes, 2000). SMEs are likely to "deviate from their original plans which results in a continual stream of innovative marketing" (O'Dwyer et al., 2009, pp. 54). Traditional companies use strategies such as target, segment and position while SMEs use marketing to identify customers by eliminating potential new customers through the use of KPIs.

On the other hand, the marketing activities of smaller companies are usually done by the owner or manager of the firm. Their plans often are "to attract new business, focus(ing) on competitors, customers and the business environment" (O'Dwyer et al., 2009, pp. 56). Furthermore, the marketing characteristics come from a manager's experimental ways of trying to promote products or services. These managers try to do marketing even though they might not fully understand how it actually works. This results in marketing decisions being done in an unstructured way which leads to spontaneous, informal and ever-changing marketing activities. Firm characteristics also play a role, since characteristics such as managerial style or resources can influence the marketing function as well (Carson and McCartan-Quinn, 1995). Small and medium sized enterprises tend to have close customer-relationships that result in the company providing more customized services to please them. This customized service adds value to the relationship and belongs to the added value marketing activities (Gilmore et al., 1999). Furthermore, it is important and effective to publish content to educate your potential new customers about the solution your product or service provides rather than pushing the product or service to the customer to get sold. This can only be done if the marketing efforts are done in the language that the potential new customers understand to make sure that specific industrial buying solutions can be found and understood (PRECISION marketinggroup, 2018).

SMEs that are doing well in marketing are supposed to be more customer oriented, do marketing planning, have a program of marketing activities, do category management and review all these points regularly (Carson et al., 2004). B2B marketing in SMEs is fully focused on communication, word-of-mouth and interaction activities. A SME's marketing activities are often contrasting traditional textbook marketing strategies (Gilmore et al., 1999).

Why having a well-established marketing function?

Small and medium sized enterprises with a strong marketing function are able to target customers, identify their needs and translate this into their product. This can be achieved through the smaller distance between company and customer, that a SME provides which gives opportunities of better and more specific customer feedback (Cavusgil and Zou, 1994). Walker, Mullins and Larréché state that "organizations will be successful if they consistently address the needs of their customers better than their competitors" (2008). When having a well-established marketing function, SMEs can position their brand better than competitors with a lower established marketing function. Pricing, promoting and distributing products will be more effective which results in a better product differentiation and thus to a potential better performance (Day, 1994; Kohli and Jaworski, 1993). When marketing is used in a proactive and reactive way to support the company's operations, it can help achieving the company's set goals (O'Dwyer, et al., 2009). The better established the marketing function, the better the meeting of needs of customers and the more effective the competition against competitors (Keh et al., 2006). In case of a well-established function, a company can respond to market changes more easily such as moves of competitors and technological changes which can then be used for value creation through knowing the latest needs of the market. Market-driven firms compared to operational-driven firms are likely to have a better business performance, due to those capabilities being determinants for increased financial performance (M, 2015). Due to the limited resources of SMEs, spending money on marketing activities is often rejected. This can be overcome by having a well-established marketing function since it enables companies to use these resources more effectively (Prahalad and Ramaswamy, 2000).

The influence that marketing has on a company's market and financial success was researched by M in 2015 where the results show a direct and complementary effect of marketing capabilities on revenue and margin growth rates.

It is no secret that companies successfully use marketing activities to increase sales of their products or services (Carson, 1990), which creates the question why companies might decide against having a highly-developed marketing function. This opinion is held by other researchers as well, asking if many of the sales are built upon long-term relationships, why do manufacturers need marketing (Olson, 2017).

B2B marketing challenges of technical manufacturing SMEs

Some of the challenges belong to the characteristics of SMEs. Small and medium sized enterprises often have resource constraints for example financial, personnel or time constraints. They have an informal approach to management and a lack of strategic planning. Additionally, they might have a lack of expertise knowledge of marketing which creates a more general view on business (Gilmore et al., 1999). As SMEs usually spend their time on operational problems, there is barely any time left for marketing activities since other departments are prioritized (Murphy, n.d.). A research by Ruhland (2016) states that 47% of small business owners do marketing on their own without understanding whether they

increase their return on investment. Another challenge SMEs face concerning marketing is how to increase visibility and generate leads that result in actual sales as well as how to produce and deliver quality content. Furthermore, a consistent execution of all marketing activities is crucial to ensure an increase in performance (Murphy, n.d.). When new potential customers look to buy a product, they will often do so through referrals from a person they already know or choose someone from their existing partner database (PRECISION marketinggroup, 2018). According to the PRECISION marketinggroup (2018), Manufacturers that are selling and buying are likely to do this in their small group of existing relations. Due to the fact that business-to-business sales cycles take longer than business-to-consumer sales cycles, SMEs have to create long-term marketing strategies and do not stop halfway through because they do not see improvements in performance straight away. All these factors play a role in developing an effective marketing function.

Technical manufacturing SMEs

When talking about technical manufacturing firms, one means companies that transform goods, substances or materials into new products. This transformation can be in a mechanical, physical or chemical way (Levinson, 2018). The manufacturing operations create value through transforming for example less valuable materials into more valuable products. With employing 30.4 million people in 2016 in the EU, the manufacturing industry is one of the biggest worldwide (Eurostat, n.d.).
Manufacturing companies are likely to gain customers through word-of-mouth, partnership deals and loyal customers. They also usually target customers in regions where they have company locations or distributors for their products or services (Insights.,2015). When selling a product in the manufacturing industry, it is important to strengthen the buying decision before, during and after to ensure the buyer made the right decision (Kindström et al., 2012). This creates a feeling of trust and is valuable in a manufacturing industry buying process. It is crucial to be a present thought in a customer's mind when either thinking about a new purchase or when asked to make a referral to a potential new customer. B2B marketing in this industry should involve not only advertising and promotional activities as in the business-to-consumer market but all activities that create value for both the supplier and the customer (Kindström et al., 2012). Content marketing is one of the most valuable marketing areas a manufacturing business can use to increase performance. This is due to the fact that content marketing increases brand awareness which can help to target a specific audience and generate usable leads (Hallam, 2017). There is no marketing strategy in this industry that fits every business. That means that the issue of researchers is to find a strategy that fits them all. There might only be guidelines for how to create a marketing plan in the manufacturing sector, but practitioners need to implement their own strategies individually.

Theory vs practice

Nowadays, there is plenty of knowledge about theories considering B2B marketing on how to gather information on customer needs and interactions and other useful strategies on industrial marketing. Nonetheless, companies still struggle implementing those skills in practice (Lilien, 2016).

Jaworski (2011) tried reasoning why academic knowledge is narrowly applied in practice. He focuses on the managerial aspect. The most critical part is understanding all marketing roles inside the firm and basing theories on what fits the company. This is hard to do if one does not have the specific knowledge needed to understand B2B marketing on the first side. On the other side, B2B marketing is also a subjective field where people can interpret knowledge themselves which makes it hard to give everyone the same ideas. Knowledge might also be understood differently by different departments (Jaworski, 2011).

Company management might also believe that since they have been successful without implementing any theories, they do not have any need to do so (Mora Cortez & Johnston, 2017). "Academics are not listening to marketers' needs and the issues they confront" (Reibstein et al., 2009). This connects to the overall opinion that there is a gap between theory and practice in B2B marketing which needs consideration so that companies can start actually implementing useful strategies that make them more effective and profitable.

Market Orientation

Market orientation "refers to the organization-wide generation of market intelligence, dissemination of the intelligence across departments, and organization-wide responsiveness to it" (Jaworski & Kohli, 1990). Through the establishment of market orientation, companies can better foresee potential future changes in the market which can provide a competitive advantage (Day, 1994). Expectations of customers on products or services change over time which results in companies having to adjust to these new circumstances to deliver the new requirements. To increase the business performance, managers should attempt to improve the market orientation of the company (Jaworski and Kohli, 1993). Kirca et al. (2005) did a research on the relationship between Market Orientation and firm performance in which they found a significant positive correlation. This has also been proven by several other studies (Kara et al, 2005; Aldas-Manzano et al., 2005).

Companies that have a high level of market orientation create a focus on the continuous collection of information about customers and competitors as well as using this information to create more advanced customer value (Slater and Narver, 1995). While creating superior customer value, the interests of key stakeholders are still considered. Day (1994) states that a "market driven culture supports the value of thorough market intelligence and the necessity of functionally coordinated actions directed at gaining a competitive advantage". Through the constant information sharing between the company and its customers, the company can create a competitive advantage of enhancing speed of responding to

changes in market needs. Market orientation can be seen as a learning orientation (Slater and Narver, 1995). Kohli and Jaworski (1990) elaborate that an organization can be considered market-oriented when its actions are accordant to the marketing concept. Slater and Narver (1990) add that through the information gathered due to their market orientation, marketing strategies can be established. Market orientation in cooperation with marketing capabilities are complementing each other which can result in a higher firm performance (Morgan et al., 2009). There are researches that present findings on the relationship between market orientation and marketing (Dutta et al., 2003). They found out that market orientation can be required to do different kinds of marketing activities while activities such as marketing planning can increase the market orientation of a company. One of the most important priorities for research in marketing is identifying opportunities for growth by using market information (Venter and Jansen van Rensburg, 2014). There is an importance of using information from the market to create marketing strategies which then results in higher firm performance (Keh et al., 2006).
This shows that there is a relationship between market orientation and marketing concepts which will be elaborated further later on. Furthermore, an increase in the level of market orientation is supposed to improve a company's market performance. It is also a determinant of profitability due to statements such as "businesses having the highest degree of market orientation are associated with the highest profitability" (Narver and Slater, 1990). The level of market orientation can increase when managers put a high amount of emphasis on market orientation by continuously telling customers about the advantages (Jaworski and Kohli, 1993). The framework of market orientation used for generating questionnaire responses for further evaluation of the relationships between market orientation, marketing function and firm performance consists of three indicators describing Market Orientation (MO). Intelligence generation, dissemination and responsiveness are three indicators for market orientation developed by Jaworski and Kohli (1993). Intelligence generation relates to actions such as meeting with customers to gain informative feedback, interaction either between customers and the company or between departments inside the company as well as gaining information on the industry through surveys or similar information gather applications. Intelligence dissemination is about meetings internally, discussions between departments and speed of information transmission inside the company. Responsiveness deals with meetings to discuss changes on the market, deciding on new plans to implement new information and cooperation between the departments to increase speed of implementation.

Marketing Function

When mentioning "marketing function", the bundle of marketing activities done along the buying-process is referred to, to ensure the production of products or services satisfying the customers. These activities are for example "develop(ing) the customer proposition" (Baines et al., 2013). One can say that all actions taken to marketing belong to a company's marketing function.

As Moorman and Rust (1999) say, the marketing function should connect important company areas to customers. These are for example the connection between the customer and "(1) the product, (2) service delivery, and (3) financial accountability" (Moorman & Rust, 1999, pp. 180). Therefore, as Day (1994) states, a marketing function ideally links the customer to several organizational processes at once.

When skills and knowledge increases in those three elements, the value of the marketing function increases as well. The marketing function's value in this case is determined by a relative scale on "the degree to which it is perceived to contribute to the success of the firm relative to other functions" (Moorman & Rust, 1999, pp. 180). The marketing function contributes not only to a company's new product performance, financial performance and customer relationship performance (Moorman & Rust, 1999) but even further than an overall market orientation.

A marketing function can have different structures – degree of formalization, centralization, internal and external location of marketing (Workman et al., 1997). The formalization describes the degree to which marketing is done in a formal or informal way, that means with many restrictions and rules or quite freely. The centralization describes where the marketing is located. While in a centralized organization, there is one marketing department, in a decentralized company, marketing is done more freely in overlapping departments. Internal and external location of marketing tasks describe where the marketing activities take place. Is the marketing outsourced or is it locally done at the company itself (Robbins, 2006). Fourali (2010) described a marketing function as focusing on all stakeholders in the company. It is about providing marketing intelligence and customer insights, strategic marketing direction as well as developing customer propositions. Furthermore, it deals with integrating other business functions and individuals to create a marketing strategy.

On the other hand, there is the environmental dimension which belongs to the external side of the marketing function. Factors connected to this dimension are market and technology uncertainty as well as industry and societal context. Even though there are firm-specific factors, they are more on a macro perspective due to them being about firm size or strategic orientation (Workman et al., 1997). Workman, Homburg and Gruner (1997) viewed the marketing function as not only focusing on internal processes and customers but also on the environmental factors externally and internally. Externally in this case refers to factors outside the direct management control while internally means the factors management can control (Duncan, 1972).

Key customers nowadays not only engage with the sales and marketing personnel but sources state that more and more notice a change to customers engaging with departments such as the manufacturing department. In markets that are dealing with rapidly changing environments such as the manufacturing market due to changes in technologies, it is easier for the manufacturing employees to engage with customers since they are the ones knowing about the product the best. This is why one goes back to Moorman and Rust's statement of integrating marketing in all departments so that not only the manufacturing employees would be able to best inform the customers. Workman, Homburg and Gruner (1997) also state that cross-functional dispersion of marketing is more likely in B2B firms.

To complete the picture, there is a complementing dimension that connects the external and internal dimension. This is done by implementing marketing tools such as social media, SEO, data reporting and content creation. There is a large number of marketing tools available, traditional and e-marketing based. Nevertheless, companies need to find their own stack of marketing tools that fit their business.
All companies need to start by analyzing their internal and external company factors through analyses such as SWOT. By doing this, the central problem will become visible. This changes the way of analysis into action where strategic options need to be found in order to solve the central problem. This can then be done through implementing marketing strategies such as STP (Segmenting, Targeting, Positioning). The 7P model can support the action phase to complete the marketing function development.

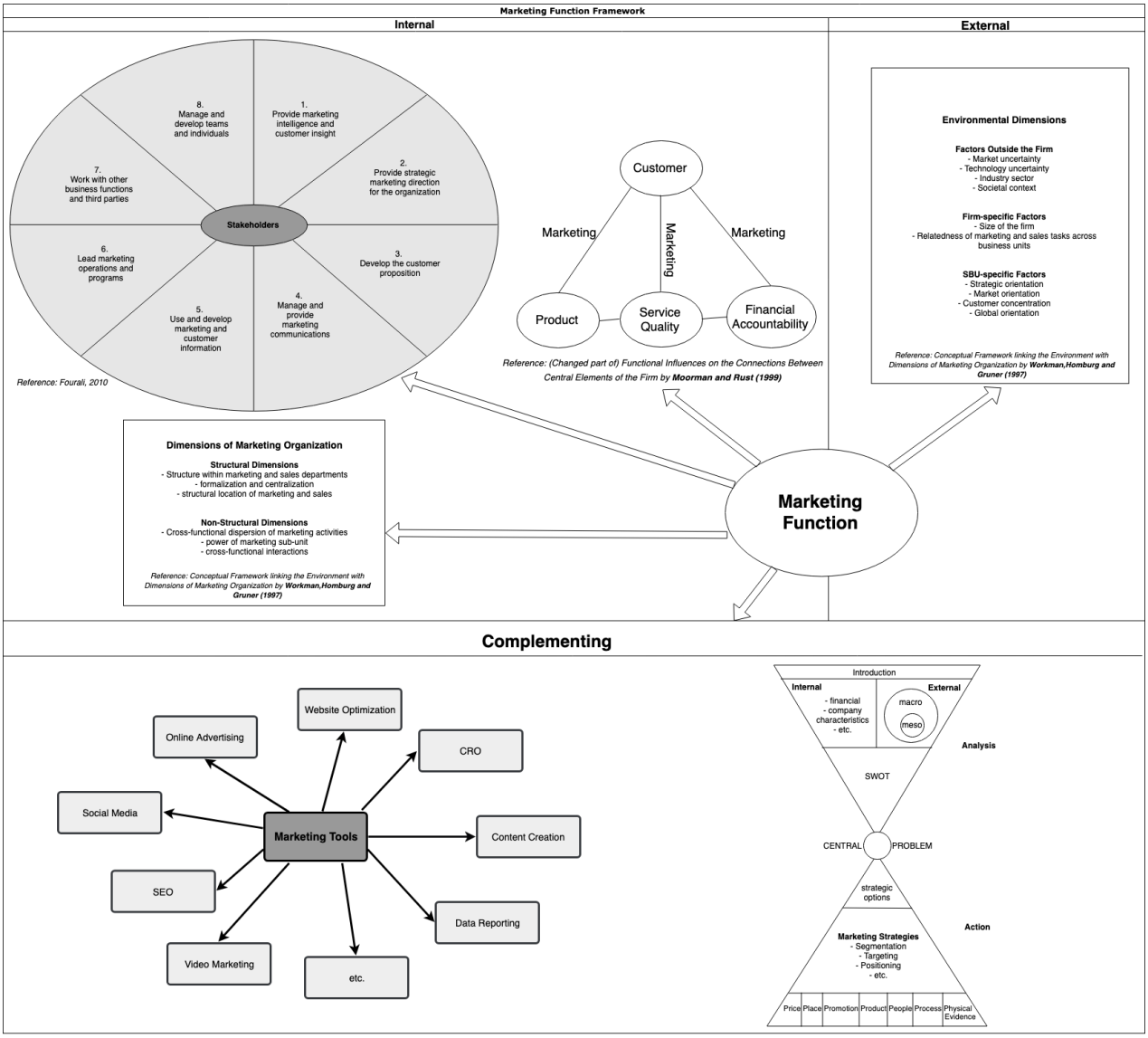

Figure 1: Marketing Function Framework

To shorten the questionnaire, the focus lays on the three dimensions of Moorman and Rust (1999) instead of integrating the whole range of marketing function indicators.

Therefore, to establish an overall picture of a company's marketing function, the three indicators consisting of connections established by Moorman and Rust (1999) are used. Moorman and Rust talk about marketing functions being built upon three connections – the customer-product connection, the customer-financial accountability connection and the customer-service quality connection. Product, financial accountability and service quality are three critical company elements that need to be properly planned and executed to ensure a firm's performance.

The customer-product connection deals with creating a link between the company offer and the potential customer. Here, this means taking actions based on the 4Ps - product, price, promotion, place. The customer-financial accountability connection discusses the link of customer satisfaction to financial outcomes. The customer-service quality connection largely deals with figuring out if the customer is satisfied with the company's services and if not to change it accordingly and quickly.

Theoretical Framework

The question now is, does the level of Market Orientation and, or the level of Marketing Function development correlate with Performance.

The four indicators of performance used in the questionnaire were developed by Moorman and Rust (1999) from an adaption from Moorman (1995) and Griffin and Page (1993). These four indicators are as seen in figure 4 – costs, sales, profitability and market share. By reducing costs and increasing sales, profitability and market share, a company increases its performance.

In the theoretical framework seen in Figure 2, the relationships between the different concepts are exemplified and hypotheses can be drawn.

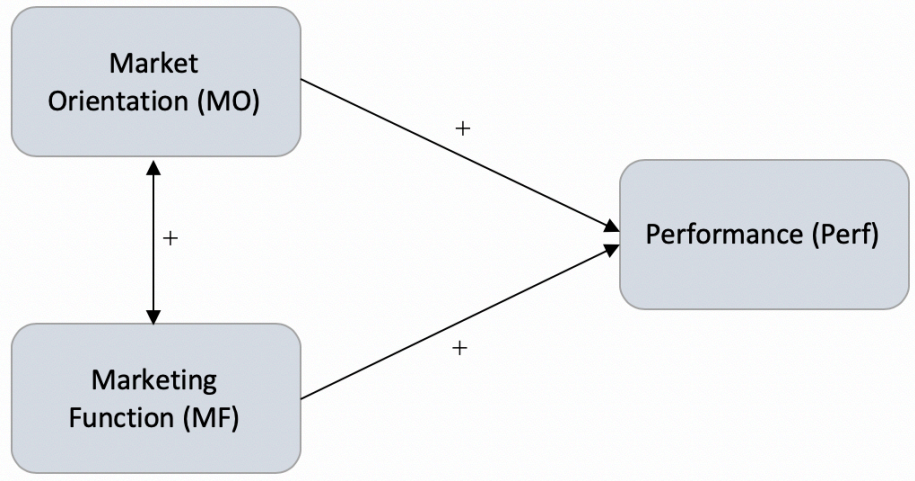

Figure 2: Theoretical Framework on the relationships between Market Orientation, Marketing Function and Performance

Hypotheses 1, 2, 3a and 3b only focus on the relationships between two constructs, whereas hypotheses 4, 5, 6 and 7 take all constructs into consideration. Therefore, one can test not only a linear relationship but also a multiple linear relationship.

Hypothesis H_1: The higher the level of the Marketing Function development, the better the Performance of a company.

The first hypothesis to test will be about the construct relationship between Marketing Function development and Performance of a company. This relationship was proven by researchers such as Kohli and Jaworski (1993) who agree that marketing can increase a firm's performance.

Hypothesis H_2: The higher the level of Market Orientation, the better the Performance of a company.

The second hypothesis is about the construct of Market Orientation and Performance. This relation was tested by Day (1994) who describes a positive relationship between the two variables.

Hypothesis H_{3a}: The higher the level of Market Orientation, the higher the level of the Marketing Function development.

Hypothesis H_{3b}: The higher the level of the Marketing Function development, the higher the level of Market Orientation.

Hypotheses 3a and b test the construct of Marketing Function and Market Orientation. Here, it is tested if there is a bilateral relationship between the two variables as Moorman and Rust (1999) described. To make sure that the relationship is actually bilateral, the relationship will be tested in both directions rather than in one analysis.

Hypothesis H_4: If the level of Market Orientation is high and the level of Marketing Function development is low, then the Firm Performance is medium.

The fourth hypothesis is the first one to test the construct of all three variables together. This will give more insights into the independent variables and might show potential moderating or mediating effects in the relationship with performance. Hypotheses 5-7 all deal with the whole construct and can be seen below.

Hypothesis H_5: If the level of Market Orientation is low and the level of Marketing Function development is high, then the Firm Performance is medium.

Hypothesis H_6: If the level of Market Orientation and the level of Marketing Function development are high, then the Firm Performance is high.

Hypothesis H_7: If the level of Market Orientation and the level of Marketing Function development are low, then the Firm Performance is low.

These hypotheses can be used later on in statistical analyses to be tested for significance. This can be done using programs such as SPSS and ADANCO.

Methodology

The fact that marketing increases performance is not a secret anymore (Slater and Narver, 1995; Jaworski and Kohli, 1993; Moorman and Rust, 1999). However, the research investigating this relationship nearly never examines small and medium sized enterprises. This creates an interesting gap in research that has already been done, where this thesis comes into place. Nevertheless, to understand the mechanisms behind the relationship, one also needs to understand the extent of marketing function development in those companies and reasons for or against having a highly developed marketing function.

To answer the research question of "To what extent is there a link between Marketing Function development and Market Orientation? And how does the relationship between Marketing Function development and Market Orientation affect Firm Performance?", a pre study was done consisting of seven interviews with managers from manufacturing B2B SMEs. The aim of the interviews was to find out if and how companies in this industry do marketing and how this relates to market orientation and firm performance.

The reason for choosing a mixed method approach is predominantly to first gain insights into what is actually going on in companies and then seeing the bigger picture in the meaning of what was found out. Therefore, gaining insights into micro and macro aspects of the topic. Another reason is that the insights gained in the interviews can be used to further explain relationships found in the quantitative analysis which supports the findings. The pre study was done to see in a small sample what the relationships are and then to create a larger case by using the questionnaires.

The time horizon used for the research is a cross-sectional one. This means that the analyses are done at a time in history (Saunders et al., 2009). Seven interviews were conducted in a timeframe of two weeks to first see what marketing relations a smaller sample of manufacturing SMEs has. The publishing of the questionnaire on a company website has been online for five weeks before starting the data analysis. Due to the short timeframe possible for writing a thesis, only 36 questionnaire respondents and seven in-depth interviews were gathered.

Qualitative Research – Pre-Study

Qualitative research is used when non-numerical data is gathered. This can be in terms of words as well as videos or photos.

Before even starting to establish the questionnaire, literature had to be read to collect information on marketing function development, market orientation and SMEs in the manufacturing industry. Using secondary data in form of literature on one hand is unobtrusive which makes it a higher quality data providing contextual data (Saunders et al., 2009). On the other hand, one cannot be sure of the quality of the data and it might not match the purpose that one needs. The literature was additionally used to

develop a framework describing a company's marketing function (see literature review). Here, multiple already existing frameworks developed by other researchers have been integrated and more information have been added to provide an overall overview.

To gather further qualitative data to prepare for the actual quantitative study, interviews were conducted. The interview partners were sampled on the basis of research requirements such as firm size and industry. This is called purposive or judgmental sampling (Saunders et al., 2009). The potential interviewees were then sent an email and an interview was scheduled. The interview partners got the guideline questions beforehand to make sure that they knew what to expect and could already think about what to say. This is part of a semi-structured interview. It gives the discussion a certain direction without biasing the outcomes. These kinds of interviews can be used to understand relationships between variables (Saunders et al., 2009). Hence, in this case the interviews are used to understand the relationship between market orientation, marketing function and performance in order to understand if and how those companies do marketing as well as if that increases the firm performance.

In qualitative research, there can also be threats to reliability and validity. Starting with threats to reliability, there can be participant error as explained before. The interviews were all conducted based on the interviewee's timeframe which was weekdays in the early afternoon. This should reduce the likelihood of participant error. Participant bias on the other hand can be reduced through the fact that the interviews were to the most extent unstructured and were supposed to be in-depth conversations on B2B marketing in the technical manufacturing industry. It was still connected to their specific company but nothing inconvenient was asked. Nevertheless, there is a slight potential of participant bias. Another threat is one of observer error. Even though the interviews were to the most extent unstructured, questions as guidelines were written down and used to gather information. This results in a lower likelihood of observer error. The last threat to reliability is observer bias. There is a chance of interpreting the information gathered in the interviews in a different way than what the interviewee meant it to be. The credibility increases though, if the said information was also stated by another interviewee. Potential threats to validity include ones for external validity or also called generalizability. Due to the small number of company contacts interviewed, the generalizability is at risk. However, due to the decided specific research setting one increases the likelihood of the study being more generalizable than compared to the whole manufacturing industry.

There can also be bias in conducting the interviews, such as interviewer and interviewee bias. To reduce interviewer bias, the verbal and non-verbal behavior was kept the same during all interviews and no own opinions were made visible. Additionally, interviewee bias can arise through potential sensitive information they decide not to reveal which can mean that an important detail was left out. However, this topic is not highly sensitive, but the interviewees were ensured that the recorded interviews were only for transcript purposes and would not be published by any means except for anonymous use in the study. The use of open questions in an interview can avoid bias because they support the exploration of

the topic even further. Furthermore, the interviews were transcribed immediately after conducting them to be able to add comments and ideas to the said sentences.

Quantitative Research

On the other hand, a quantitative research method is a data collection technique that uses numerical data. This data can then be analyzed in statistical programs to get numerical outcomes (Saunders et al., 2009). The quantitative approach used in this thesis is a questionnaire. The questionnaire was established by using pre-defined scales by scientists to ensure that the questions asked actually measure what is intended to be measured. There were four different sections in the online questionnaire – general introduction questions, questions on market orientation, questions on marketing function and questions on financial performance. There were 51 questions overall with an average time to fill in the questionnaire of 10 minutes. Nearly all questions in this section have pre-set answer ranges except for the question of "What is your function in the company?". This makes it easier to statistically analyze the data due to translating the words into numbers. The first section contained 12 questions. The section on market orientation has Likert-scales established by Jaworski and Kohli (1993). They divided market orientation into intelligence generation, dissemination and responsiveness and developed specific questions to figure out the level of market orientation a company has. These statements could be answered in a five-item Likert-scale ranging from 1-strongly disagree, 2-disagree, 3-neutral, 4-agree to 5-strongly agree. Furthermore, the section contained 19 questions. The second section scales on marketing function were developed by Moorman and Rust (1999) who divide the function into three connections. The statements are also prepared in a five-item Likert-scale way with the same possible outcomes as the market orientation section above. This section on marketing function contained 12 questions. Example questions and statements for the sections can be found in Appendix L. The last section on financial performance has question statements about costs, sales, profitability and market share with answers on a six-item Likert-scale. This scale ranges from 1-a lot worse, 2-worse, 3-same, 4-better, 5-a lot better to 6-inapplicable. The item of inapplicability is due to the fact that companies might not have been established for more than five years or did not set any goals concerning the four performance indicators stated above. Furthermore, this section gathers information on performance in relation to pre-set goals of companies at this point in time as well as to five years ago. This last section contained 8 questions.

Table 1: References of Constructs

Construct	Indicators	Reference	Scale
Market Orientation (MO)	- Intelligence Generation - Dissemination - Responsiveness	Kohli & Jaworski (1993)	5-item Likert Scale - Strongly disagree - Disagree - Neutral - Agree

			- Strongly agree
Marketing Function (MF)	- Customer – Product Connection - Customer – Financial Accountability Connection - Customer – Service Quality Connection	Moorman & Rust (1999)	5-item Likert Scale - Strongly disagree - Disagree - Neutral - Agree - Strongly agree
Performance (Perf)	- Costs - Sales - Profitability - Market Share	Moorman (1995) and Griffin & Page (1993)	5-item Likert Scale - A lot worse - Worse - Same - Better - A lot better

All sections have been translated into Dutch, German and English to make sure that all respondents understand the questions properly and to potentially increase the responses due to the respondents not having to translate the questionnaire themselves. Due to this translation process, issues could arise. Therefore, close attention was paid to the lexical meaning, the idiomatic meaning and the experiential meaning (Usunier, 1998). The lexical meaning refers to watching out to actually use the right meaning for words. The idiomatic meaning is about words that are natural for native speakers but can be misunderstood by non-native speakers. Experiential meaning deals with choosing words that are in common use instead of using words that need to be looked for first (Usunier, 1998). Furthermore, the syntax and grammar were checked by native speakers to reduce misunderstandings.
To calculate the response rate of the Dutch respondents, the formula of the response rate will be used.

Equation 1: Response Rate

Response rate: total number of responses / total number in sample

The Dutch questionnaire was sent to 2000 potential respondents based on a database of customers of STEM Industrial Marketing Center. In the timespan of five weeks, 30 questionnaires were filled in. Therefore, the response rate can be calculated as follows: 30/2000=0.015. The response rate for the Dutch questionnaire is thus 1.5%. The German questionnaire was sent to 160 customers of another company via email containing the link to the questionnaire on STEM's website. Here, 48 emails came back containing unreachable potential respondents. Therefore, the formula of the active response rate will be used.

Equation 2: Active Response Rate

Active response rate: total number of responses / (total number in sample – (ineligible+unreachable))

Filling in the numbers, one gets: 6/(160-48)=0.05357. This means that the active response rate of the German respondents is around 5.4%. Adding the two samples together, a total response rate of 1.7% can be calculated. This is quite a low response rate but nevertheless, we have a sample size of 36 which is sufficient according to the central limit theorem. The central limit theorem indicates that a sample size of over 30 is sufficient to state that the mean of a population is close to be normally distributed (Stutely, 2003).

Both the Dutch and the German sample were chosen on the basis of fulfilling requirements such as firms being based in Germany, Belgium and the Netherlands, being part of the manufacturing industry and being a small or medium sized enterprise. This sampling technique is called cluster sampling because one selects groups based on requirements and belongs to the probability sampling techniques. Then, by using random sampling, the questionnaire was sent to random customers in STEM's database. The questionnaires were also advertised in LinkedIn and newsletters which gave respondents the possibility to decide themselves to take part in the research or not. This is called the self-selection sampling technique. Since the questionnaire was published on STEM Industrial Marketing Center's online website, it can be considered as an internet-mediated questionnaire (Saunders et al., 2009).

To be able to get a first overview on the questionnaire results, tables with quadrants on levels of development of marketing function and market orientation were developed. The outcomes of the questionnaire can be valued based on those quadrants.

ADANCO Analysis

ADANCO is a software used for variance-based structural equation modeling (Henseler and Dijkstra, 2015). It is used to statistically model latent variables and test theories while taking into account measurement error. In this case, it is used to test the theoretical framework of market orientation, marketing function and performance (see Figure 2). Those three are constructs defined by indicators that are put into ADANCO by the questionnaire outcomes written down in an Excel file. The indicators are categories that describe the constructs in the questionnaire. For example, the construct market orientation has three indicators – information generation, dissemination and responsiveness. The relationship directions that shall be tested are shown as arrows pointing from a construct to another. This thesis will focus on the relationships between market orientation and marketing function, market orientation and performance and marketing function and performance. The whole process is described in the results section of this paper.

There are threats to reliability which have to be taken into consideration when doing research. A potential threat can be participant bias. This means that participants might fill in the survey according to their advantage because of for example being afraid of management consequences. This can be reduced through anonymity. The online questionnaire had the option of anonymity. The respondent was able to either fill in their information or stay anonymous. Respondents that filled in their information should be less likely to lie filling in the questionnaire. Another threat might be participant error. This is

about the time that the respondents fill in the questionnaire. There might be differences in the outcomes due to stress in working hours or other factors. This questionnaire was sent to the sample on multiple different occasions as well as not rushing them to fill it in. Therefore, participant error should be low due to the respondents not being forced to answer straight away.

Furthermore, there can be threats to validity. To make sure that the questionnaire measures what is intended to be measured, different types of validity are checked. Internal validity can be ensured by finding evidence on the same outcomes in other research studies. Content validity refers to having the right questions to investigate a subject. This can be ensured in this study due to the question scales being developed by scientists and already being used in other research as well. To ensure criterion-related validity, correlation matrices in SPSS will be examined to make sure that the constructs correlate with each other.

Another important factor is the reliability of a study. Reliability is about being able to reproduce the same outcomes again. Internal consistency is part of reliability and tests the consistency of responses over all questions. This can be tested by applying Cronbach's alpha in SPSS. This will be further explained in the results section of this thesis.

Before the questionnaire was published online, it was pilot-tested in all languages by professionals in the field to make sure there were no misunderstandable questions or spelling mistakes. This connects to the point of face validity, making sure that the questionnaire makes sense.

SPSS Analysis

SPSS is a statistics program that gives the user the opportunity to test variables and explore a dataset. The first step after inserting the data into SPSS is creating descriptive statistics. They give an overview on the data and measures in the sample and can be used to see if there are any missing cases or if the data needs to be adjusted before analyzing. Descriptive statistics of all variables on their own is the first step to view the data. Thereafter, descriptive statistics with only the variables used in the model will be checked. Furthermore, before starting the more complex analyses, correlation analyses are done to measure the strengths of relationships between the variables. In this case, the correlation between the variables and its indicators is checked. This means that for the variable MO_mean the indicators MO_A_mean, MO_B_mean and MO_C_mean will be checked. This will be done for the other variables as well. The Pearson Correlation is used to value the levels of correlation between those variables. This is important because the specific indicators of the variables need to be checked if they actually relate to the variable.

To statistically test reliability, a test for Cronbach's alpha was done. This was divided into three tests. The first one was testing Cronbach's alpha for 10 items, consisting of the means of MO, MF and Perf. The second test was using 13 items, taking the means as above but including the levels of MO, MF and Perf. Finally, the last test contained 39 items, consisting of all individual indicators.

Multiple regression analyses were done to understand which independent variables are related to the dependent variable and to see what relationships these variables have. The first regression analysis done was with level of performance as the dependent variable and level of market orientation and level of marketing function as independent variables. There were control variables included to make sure that the predictor variables have the biggest impact on the dependent variable. These control variables were Nr_people_company, Marketing_Ex, Nr_people_Mar, Active, Education_1 and Country.

After that, the variable marketing function was used as the dependent variable with market orientation as the independent variable to test their relationship and the other way around. The output gives insights on the relationships being controlled by control variables such as Nr_people_company, Marketing_Ex, Nr_people_Mar, Active, Education_1 and Country.

Before being able to run the regression analysis, one needs to make sure that several assumptions are met. These are for a regression analysis:

1. Normality
2. Homoscedasticity
3. Linearity
4. Multicollinearity

To test normality, one looks at the P-P plot and checks if the distribution follows the line to the most extent. The tested distribution in this case followed the diagonal line mostly, which means that the assumption of normality is met, and one can go further with the analysis. Testing homoscedasticity is done by looking at the P-P plot of the residuals. Here, the plot should look as if there is no similar pattern visible. This is given in this case. Due to normality and homoscedasticity being met, checking the linearity is not necessary since it can be assumed that it follows a linear relationship. The last assumption is the one of multicollinearity. This can be checked via VIF scores. They should be below 5 to ensure that the assumption is met. This is also the case which means that a regression analysis can be run.

Results

Results ADANCO

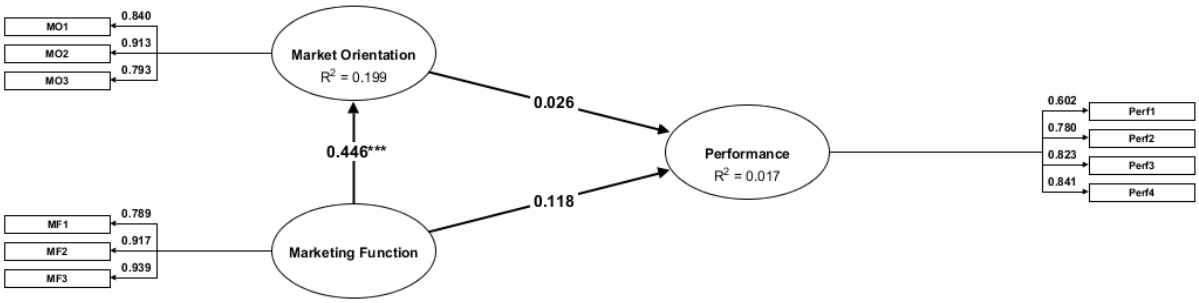

Figure 3: ADANCO Construct Model

There are three constructs in the model – Market Orientation, Marketing Function and Performance. All the indicators have been put together from outcomes of the questionnaire.

1. ***Market Orientation (MO)***
   a) *MO1 – intelligence generation*
   b) *MO2 – dissemination*
   c) *MO3 – responsiveness*
2. ***Marketing Function (MF)***
   a) *MF1 – customer-product connection*
   b) *MF2 – customer-financial accountability connection*
   c) *MF3 – customer-service quality connection*
3. ***Performance (Perf)***
   a) *Perf1 – costs*
   b) *Perf2 – sales*
   c) *Perf3 – profitability*
   d) *Perf4 – market share*

ADANCO runs the algorithm and presents the report on the model. The correlation from Market Orientation to Performance, Marketing Function to Performance and Marketing Function to Market Orientation are tested to see what relationships exist.

The goodness of model fit test of the overall model is run by ADANCO resulting in scores for SRMR, d_{ULS} and d_G. These scores measure how strongly the model matrix differs from the empirical correlation matrix (Henseler, 2017). The d_{ULS} value of 0.5276 does not exceed the values of the 95%-percentile (0.1751) and 99%-percentile (0.2141). This shows that the model is likely to be true. The same counts for the d_G value of 0.2993. This value does not exceed the 95%-percentile value of 0.6969 and the 99%-percentile value of 0.9723. Therefore, the model is likely true. Nevertheless, the SRMR score of 0.0979 is higher than the threshold of 0.08 which results in an unacceptable fit which means that the model is unlikely to be true. Due to the score still being close to the threshold and the d_{ULS} and d_G scores being positive, one can conclude that there is a good theoretical model's fit and it is likely that the model is true.

Table 2: ADANCO Output Goodness of Model Fit

Goodness of model fit (estimated model)

	Value	HI95	HI99
SRMR	0.0979	0.1751	0.2141
d_{ULS}	0.5276	1.6863	2.5203
d_G	0.2993	0.6969	0.9723

Construct reliability is a measure of internal consistency and can be measured by three different measures – Dijkstra-Henseler's rho, Jöreskog's rho and Cronbach's alpha. Dijkstra-Henseler's rho should be as high as possible to have the highest internal consistency. The score for MO is 0.8237, which is considered to be a high score, the score for MF with 0.9253 is very high and the score for Perf is 0.7417 which is moderately high. This indicates that there is a high internal consistency between the three constructs. Looking at Jöreskog's rho, the scores for MO, MF and Perf are respectively 0.8865, 0.9145 and 0.8492. These scores should not be lower than 0.6 to show a good internal consistency. The last indicator of construct reliability is Cronbach's alpha. The values respectively are 0.8072, 0.8617 and 0.8283 which is higher than the threshold of 0.7. This results in a reliable model.

Table 3: ADANCO Output Construct Reliability

Construct Reliability

Construct	Dijkstra-Henseler's rho (ρ_A)	Jöreskog's rho (ρ_c)	Cronbach's alpha(α)
Market Orientation	0.8237	0.8865	0.8072
Marketing Function	0.9253	0.9145	0.8617
Performance	0.7417	0.8492	0.8283

Convergent validity is measured by the average variance extracted (AVE). AVE is a measure of unidimensionality. The AVE scores for MO is 0.7232, for MF 0.7819 and for Perf 0.5884. These values are higher than 0.5 which means that there is sufficient unidimensionality to be seen as a reflective

construct. This means that the indicators represent the constructs without being highly influenced by other indicators.

Discriminant validity measures if two concepts are different, they should also be statistically different. This can be seen through the measurements of the Fornell-Larcker criterion and the heterotrait-monotrait ratio of correlations (HTMT). The squared AVE score should be higher than the correlations with the other constructs. This is present as seen in Table 8.

Table 4: ADANCO Output Discriminant Validity

Discriminant Validity: Fornell-Larcker Criterion

Construct	Market Orientation	Marketing Function	Performance
Market Orientation	0.7232		
Marketing Function	0.1989	0.7819	
Performance	0.0062	0.0167	0.5884

Squared correlations; AVE in the diagonal.

The HTMT scores should be as low as possible, favorably below 0.85, since a score of 1 indicates a lack of discriminant validity. The scores of MF-MO of 0.5151, MO-Perf of 0.0310 and MF-Perf of 0.0946 indicate the presence of discriminant validity. Since both measures indicate the presence of discriminant validity, one can say that the concepts in the model are different, both statistically and theoretically.

Checking for multicollinearity is important to make sure that a predictor variable cannot be explained through other variables. The variance inflation factor (VIF) measures multicollinearity. The higher the value, the greater the level of multicollinearity (Henseler, 2017). The indicators MO3, MF1 and Perf4 are nearly not correlated with other variables with values of 1.5245, 1.9173 and 1.3505 respectively. On the other hand, the indicators MF3 and Perf3 have a high score of 4.0977 and 3.1714 which indicates that there is a high correlation with other variables. All other indicators are between 2.0 and 2.9.

The coefficient of determination (R^2) of performance as the dependent variable has a score of 0.0173. This means that 1.7% of the variance in performance can be explained by MO and MF. The R^2 of Market Orientation has a score of 0.1989 which means that 19.89% of the variance in MO can be explained by MF. Both of these scores are weak. It indicates that a change in Perf or MO might be due to other factors not related to MO and MF.

Looking at the path coefficients, in case MO increases by one unit, Performance increases by 0.0262. In case MF increases by one unit, Performance increases by 0.1293 and Market Orientation increases by 0.4459. Only MF on MO has a significant and noticeable increase.

The effect size gives an indication of how substantial the direct effect of variables on each other are. Cohen's f^2 for MO-Perf is 0.0006 which indicates an unsubstantial effect. This means that Market Orientation does not really have an effect on Performance. Cohen's f^2 for MF-Perf is 0.0113 which also indicates an unsubstantial effect, so Marketing Function does not really have an effect on Performance. There is a moderate effect for Marketing Function on Market Orientation with Cohen's f^2 of 0.2482, meaning that Marketing Function effects Market Orientation to some extent.

Table 5: ADANCO Output Empirical Correlation Matrix

Empirical correlation matrix

	MO1	MO2	MO3	MF1	MF2	MF3	Perf1	Perf2	Perf3	Perf4
MO1	1.0000	0.7064	0.4585	0.2401	0.3734	0.2925	0.0149	0.0527	0.0003	-0.0275
MO2	0.7064	1.0000	0.5828	0.2794	0.4576	0.3486	-0.0687	0.0064	0.0455	0.1558
MO3	0.4585	0.5828	1.0000	0.2742	0.3781	0.2634	-0.0749	0.0851	-0.0515	0.0719
MF1	0.2401	0.2794	0.2742	1.0000	0.5235	0.6889	0.0471	-0.0326	0.0148	0.1469
MF2	0.3734	0.4576	0.3781	0.5235	1.0000	0.8126	0.0322	0.2044	0.1225	0.1272
MF3	0.2925	0.3486	0.2634	0.6889	0.8126	1.0000	-0.0247	0.0299	-0.0267	0.0488
Perf1	0.0149	-0.0687	-0.0749	0.0471	0.0322	-0.0247	1.0000	0.6817	0.6610	0.3320
Perf2	0.0527	0.0064	0.0851	-0.0326	0.2044	0.0299	0.6817	1.0000	0.7721	0.3320
Perf3	0.0003	0.0455	-0.0515	0.0148	0.1225	-0.0267	0.6610	0.7721	1.0000	0.5009
Perf4	-0.0275	0.1558	0.0719	0.1469	0.1272	0.0488	0.3320	0.3320	0.5009	1.0000

The total effects inference table provided by ADANCO shows the significance of the relationships. As seen in Table 9, the relationship between Market Orientation and Performance has a p-value of 0.4649 which means that the relationship is statistically insignificant. This can also be seen when looking at the percentile bootstrap quantiles because they include the value 0. The relationship between Marketing Function and Market Orientation has a p-value of 0.0001 which indicates a statistically significant relationship due to a pre-set alpha level of 0.05. Furthermore, the relationship between Marketing Function and Performance has a p-value of 0.2812 which is statistically insignificant.

Table 6: ADANCO Output Total Effects Inference

Total Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
Market Orientation -> Performance	0.0262	0.0349	0.2978	0.0881	0.9298	0.4649	-0.6545	-0.5044	0.5513	0.6882
Marketing Function -> Market Orientation	0.4459	0.4859	0.1187	3.7563	0.0002	0.0001	0.0932	0.2541	0.6953	0.7443
Marketing Function -> Performance	0.1293	0.1038	0.2234	0.5788	0.5629	0.2814	-0.4259	-0.3628	0.4308	0.4975

Due to the significant relationship between MO and MF but neither MO and Perf nor MF and Perf, a new model was established, adding the indicators of MO and MF together to test if the relationship

towards Perf changes. A new ADANCO test was run giving the results in Figure 4 and Table 11.

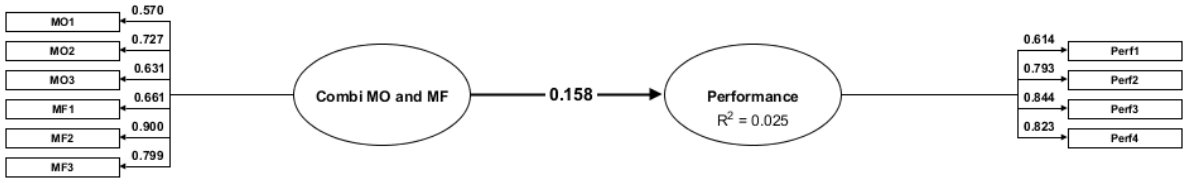

Figure 4: ADANCO New Construct Model

Despite combining MO and MF, the relationship with performance is still insignificant with a p-value of 0.3318 as seen in Table 11.

Table 7: ADANCO Output Total Effects Inference New Model

Total Effects Inference

Effect	Original coefficient	Standard bootstrap results					Percentile bootstrap quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
Combi MO and MF -> Performance	0.1577	0.1505	0.3624	0.4352	0.6635	0.3318	-0.6169	-0.5129	0.5586	0.6387

Results SPSS

Descriptive statistics were produced to make sure that there are no missing cases and there are no incorrectly filled out cases (see Appendix B). All variables are checked especially for their minimum and maximum scores as well as for any missing cases. As seen in Appendix B, there are no missing cases in any table. Furthermore, the variables are screened to see if the minimum and maximum scores match the possible outcomes of the questionnaire. That means that for example the variable "Marketing_Ex" has possible answers of "1:0-2 years", "2:3-5 years", "3:6-10 years" and "4:more than 10 years". Therefore, the minimum score should be 1 and the maximum score should be 4. This fits the outcome of the descriptive statistics table seen in Table 5. Another example is the variable "MO_A_2" called "We poll end users at least once a year to assess the quality of our products and services.". The potential answers range from "1:strongly disagree", "2:disagree", "3:neutral", "4:agree" to "5:strongly agree". In Appendix B, Table 18 one can see that for this variable the maximum is 5 but the minimum is 2. This means that there is no case where a person said strongly disagree to the statement. The maximum of all variables should never exceed the possible answer number, otherwise there has been an incorrect insert of the data. This screening is done for every variable to ensure no incorrect cases which could influence the outcomes of the analyses.

After checking the whole dataset for any missing or incorrect cases, one can take a closer look at the specific model that will be checked in order to find out the relationships between Performance, Market Orientation and Marketing Function. Control variables will be used in the regression analysis so they

will be checked in the descriptive statistics as well. Looking at Table 12 there are no cases missing and all minimum and maximum scores are in the range of the possible answers in the questionnaire. The highest mean is the one of Level_MO. This means that the level of market orientation in the sample is the highest with a score of 3.5 which ranges between medium and advanced medium market orientation. The mean score of Level_MF of 3.3611 indicates a move towards a medium developed marketing function in the sample. The Level_Perf mean score of 3.4722 also indicates a range between medium and advanced medium increased performance. Even though Level_MF has the lowest mean in comparison to Level_Perf and Level_MO, the most common answer in the data is a 4 as seen in the mode score of Level_MF. This means that there must also be a higher number of cases scoring below a 3 to ensure a mean of 3.3611 with most answers being a 4. The standard deviation of Level_MF (1.09942) also points towards a higher distribution of numbers compared to Level_Perf and Level_MO.

Table 8: Descriptive Statistics

Statistics

		education overall	education in marketing	marketing experience	is that person active in the marketing department?	how many people are in the marketing department?	Level_MO	Level_MF	Level_Perf
N	Valid	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0
Mean		2,42	2,08	3,08	1,58	2,50	3,5000	3,3611	3,4722
Median		2,00	2,00	4,00	2,00	3,00	3,0000	4,0000	3,0000
Mode		2	2	4	2	3	3,00	4,00	3,00
Std. Deviation		,841	,937	1,180	,500	1,159	,87831	1,09942	,69636
Range		4	3	3	1	4	3,00	4,00	3,00
Minimum		1	1	1	1	1	2,00	1,00	2,00
Maximum		5	4	4	2	5	5,00	5,00	5,00

To make sure that the indicators actually correlate with the predictor variables, correlation matrices were created. The Pearson Correlation is used to value the relationships. One wants the Pearson Correlation scores to be as close to 1 as possible to ensure the highest degree of correlation next to the significance being under the pre-set alpha level of 0.05.

As seen in Table 13 below, all indicators of Market Orientation are contrasted to the sum of Market Orientation. The scores 0.856, 0.932, 0.777 and 0.998 are all close to 1 which means that the variable Test_SUM_MO can be used as an overall variable for the regression analysis. Test_SUM_MF was also checked for its Pearson Correlation scores and significance and the variable has a statistically significant correlation with all its corresponding indicators (0.827, 0.875, 0.951 and 1) as seen in Table 13.

Table 9: Correlations of Market Orientation and Marketing Function

Correlations

		Test_SUM_MO	MO_A_mean	MO_B_mean	MO_C_mean	MO_mean
Test_SUM_MO	Pearson Correlation	1	,856	,932	,777	,998
	Sig. (2-tailed)		,000	,000	,000	,000

Correlations

		Test_SUM_MF	MF_D_mean	MF_E_mean	MF_F_mean	MF_mean
Test_SUM_MF	Pearson Correlation	1	,827	,875	,951	1,000
	Sig. (2-tailed)		,000	,000	,000	,000

A reliability analysis was done to make sure that the questionnaire actually measures levels of market orientation, marketing function development and performance. Therefore, Cronbach's alpha was used to measure the internal consistency of the model (IBM, 2019). The first reliability analysis was done using 13 items – Level_MO, Level_MF, Level_Perf, MO_A_mean, MO_B_mean, MO_C_mean, MF_D_mean, MF_E_mean, MF_F_mean, Perf_cost_mean, Perf_sales_mean, Perf_profitability_mean, Perf_marketshare_mean. The outcome was a Cronbach's Alpha of 0.831 which indicates a good internal consistency of the model. The next reliability analysis used 10 items - MO_A_mean, MO_B_mean, MO_C_mean, MF_D_mean, MF_E_mean, MF_F_mean, Perf_cost_mean, Perf_sales_mean, Perf_profitability_mean, Perf_marketshare_mean. Here, Cronbach's Alpha had a score of 0.759 which indicates an acceptable internal consistency. The last reliability analysis was done using 39 items with all indicators individually. Cronbach's Alpha score was there 0.914 which indicates an excellent fit. All scores can be seen in Table 14.

Table 10: Reliability Analyses Outcomes

Reliability Statistics

Cronbach's Alpha	N of Items
,831	13

Reliability Statistics

Cronbach's Alpha	N of Items
,759	10

Reliability Statistics

Cronbach's Alpha	N of Items
,914	39

After checking the data of the sample as well as the reliability of the model, one can move on with the regression analysis. To be able to run a regression analysis, one has to make sure that the data meet the assumptions of regression – normality, homoscedasticity, linearity and multicollinearity. All assumptions have been checked and can be revised in Appendix C.

All assumptions are met which results in starting the actual regression analysis. To begin the first regression analysis, SUM_Perf5 is put as the dependent variable. In block one, the control variables are

put which are in this case Active, Education_1, Marketing_Ex, Country, Nr_people_comp and Nr_people_Mar. The predicator or independent variables are Test_SUM_MF and Test_SUM_MO. The output contains a Model Summary which is presented in Appendix D and will be looked at first.

The first model excludes the predictor variables so that one can then in the second model see what extent of influence the actual independent variables have on the dependent variable, in this case what influence Test_SUM_MO and Test_SUM_MF have on SUM_Perf5. When adding the two predictor variables, R^2 changes from 0.191 to 0.272 which is an increase of 0.081. This means that the model explains 27.2% of the variation in the response variable. This percentage is quite low when comparing it to the 19.1% if the predictor variables are left out. Another factor is the statistical significance. The variation is not statistically significant due to the significance being 0.364 for the model without predictors and 0.305 with predictor variables as seen in the ANOVA table in Appendix D. This means that the relationship between SUM_Perf5 and Test_SUM_MO, Test_SUM_MF is not statistically significant due to the pre-set alpha level of 0.05. When looking at the Coefficients output of Model 2 in SPSS, one can see that the only variables that are statistically significant are the constant and Marketing_Ex. All other variables have a significance ranging from Country with the lowest p-value of 0.159 to Nr_people_comp with the highest p-value of 0.757 as seen in Appendix D.

Due to the construct of performance consisting of four indicators – costs, sales, profitability and market share, one can split the performance construct and try to leave out one or two indicators that might influence the significance of the model. After testing all possibilities by leaving out either one or two of the indicators, the best fitting indicators for performance were found, namely profitability and market share. This means that the new variable of performance is leaving out costs and sales. This means that the new variable created is SUM_Perf5_ohnecostsales. Now a new regression analysis can be done exchanging SUM_Perf5 with SUM_Perf5_ohnecostsales. Looking at the new model summary as seen in Appendix E, the new model now explains 38,4% of the variance in the response variable. With a significance of 0.071 the score is coming closer to being significant. Nevertheless, the model is still considered to be insignificant. That is why the coefficients will be checked. The now highest score is in Test_SUM_MO with 0.420 and Test_SUM_MF also has an insignificant score of 0.102. This shows that there might be a moderating effect between the two variables. This can be checked by creating a moderator variable by using the z-scores of Test_SUM_MO and Test_SUM_MF. The new variable is called ModeratorMO_MF and will be used in a new regression analysis. The new analysis showed that Test_SUM_MF suddenly had a highly insignificant score whereas Test_SUM_MO had a lower significance. Therefore, one can drop Test_SUM_MF and run a new regression with SUM_Perf5_ohnecostsales as the dependent variable and Test_SUM_MO and ModeratorMO_MF as the independent variables. The model now explains 37.4% of the variance but as seen in Table 15 down below, the model is statistically significant with 0.047 compared to the pre-set alpha of 0.05.

Table 11: Model Summary and ANOVA Table SPSS Regression 3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,442[a]	,196	,061	1,32583
2	,612[b]	,374	,218	1,21047

a. Predictors: (Constant), what country is the company located in?, how many people are in the marketing department?, marketing experience, education overall, is that person active in the marketing department?

b. Predictors: (Constant), what country is the company located in?, how many people are in the marketing department?, marketing experience, education overall, is that person active in the marketing department?, Test_SUM_MO, ModeratorMO_MF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,821	5	2,564	1,459	,233[b]
	Residual	52,735	30	1,758		
	Total	65,556	35			
2	Regression	24,529	7	3,504	2,391	,047[c]
	Residual	41,027	28	1,465		
	Total	65,556	35			

a. Dependent Variable: SUM_Perf5_ohnecoststssales

b. Predictors: (Constant), what country is the company located in?, how many people are in the marketing department?, marketing experience, education overall, is that person active in the marketing department?

c. Predictors: (Constant), what country is the company located in?, how many people are in the marketing department?, marketing experience, education overall, is that person active in the marketing department?, Test_SUM_MO, ModeratorMO_MF

Looking at the coefficients table of model 2 seen in Appendix F, both Test_SUM_MO as well as ModeratorMO_MF are significant with scores of 0.022 and 0.043 respectively. This regression explains the whole model of the three constructs Market Orientation, Marketing Function and Performance. It can be used to explain Hypotheses 4-7.

To explain Hypotheses 1-3b, one needs to look at the split model. This can be done by running a new regression testing Test_SUM_MO on Test_SUM_MF with control variables. Here, the model explains 29.1% of the variance in the response variable. The model is statistically significant with a score of 0.027 as seen in Appendix G. The B value from the coefficients table for Test_SUM_MF is 0.497 which shows a medium positive relation towards Test_SUM_MO. To test if the relationship between MO and MF is bilateral, the variables in the regression analysis will be changed. Now Test_SUM_MF is the dependent variable and Test_SUM_MO is the independent variable. The model explains 24.4% of the variance in the response variable which is lower than the previous model but similar. The model is also statistically significant with a p-value of 0.028 as seen in Appendix H. When looking at the B score, a lower medium positive score of 0.377 is shown.

Now it is also interesting to see how the models change if we leave out MO or MF and see at the relationships between only one of those variables with Performance. A new regression will test the relationship between Test_SUM_MO and SUM_Perf5_ohnecostssales. The model explains 29.3% of the variance in the response variable as seen in the R^2 score in the model summary in Appendix I. With a p-value of 0.026, the model is statistically significant which means that there is a relationship between MO and Performance. Nevertheless, the B score of Test_SUM_MO is only a low positive 0.041 score. The last regression analysis tests the relationship between Test_SUM_MF and SUM_Perf5_ohnecostssales. This model now explains 33.7% of the variance which is slightly higher than compared to the model before. The p-value of 0.048 is statistically significant which means that there is also a relationship between MF and Performance. When looking at the coefficients table in Appendix J, the B score of Test_SUM_MF is 0.047 which is a low positive score.

Hypotheses testing

Hypothesis H_1: The higher the level of the Marketing Function development, the better the Performance of a company.

To test this hypothesis, regression 7 is used as seen in Appendix J.

Y hat = $b_0 + b_1 x_1$ → *Performance = 6.286 + 0.047(MF level)*

For every one-unit increase in level of Marketing Function development, one will see a 0.047 increase of level of Performance. This means that an increase of one unit in MF level would result in a Performance level increase of 6,333.

→ Hypothesis H_1 can be confirmed.

Hypothesis H_2: The higher the level of Market Orientation, the better the Performance of a company.

To test this hypothesis, regression 6 is used as seen in Appendix I.

Y hat = $b_0 + b_1 x_1$ → *Performance = 5.993 + 0.041(MO level)*

For every one-unit increase in level of Market Orientation, one will see a 0.041 increase of level of Performance. This means that an increase of one unit in MO level would result in a Performance level increase of 6,034.

→ Hypothesis H_2 can be confirmed.

Hypothesis H_{3a}: The higher the level of Market Orientation, the higher the level of the Marketing Function development.

To test this hypothesis, regression 5 is used as seen in Appendix H.

Y hat = $b_0 + b_1 x_1$ → *MF = 16.038 + 0.377(MO level)*

For every one-unit increase in level of Market Orientation, one will see a 0.377 increase of level of MF development. This means that an increase of one unit in MO level would result in a MF level increase of 16.415.

→ Hypothesis H_{3a} can be confirmed.

Hypothesis H_{3b}: The higher the level of the Marketing Function development, the higher the level of Market Orientation.

To test this hypothesis, regression 4 is used as seen in Appendix G.

Y hat = $b_0 + b_1 x_1$ → *MO = 36.970 + 0.497(MF level)*

For every one-unit increase in level of Marketing Function development, one will see a 0.497 increase of level of MO. This means that an increase of one unit in MF level would result in a MO level increase of 37.467.

→ Hypothesis H_{3b} can be confirmed.

To test the following hypotheses, an extra regression is used as seen in Appendix K.

Hypothesis H_4: If the level of Market Orientation is high and the level of Marketing Function development is low, then the Firm Performance is medium.

Y hat = $b_0 + b_1 x_1 + b_2 x_2$ → *Performance = 3.160 + 0.023(MO level) + 0.045(MF level)*

For every one-unit increase in level of Marketing Orientation and every one-unit decrease in the level of Marketing Function development, one will see a 0.022 decrease of level of Performance. This means that an increase of one unit in MO level and a decrease of one unit of MF level would result in a Performance level increase of 3.138.

→ Hypothesis H_4 can be confirmed.

Hypothesis H_5: If the level of Market Orientation is low and the level of Marketing Function development is high, then the Firm Performance is medium.

Y hat = $b_0 + b_1 x_1 + b_2 x_2$ → *Performance = 3.160 + 0.023(MO level) + 0.045(MF level)*

For every one-unit decrease in level of Marketing Orientation and every one-unit increase in the level of Marketing Function development, one will see a 0.022 increase of level of Performance. This means that a decrease of one unit in MO level and an increase of one unit of MF level would result in a Performance level increase of 3.182.

→ Hypothesis H_5 can be confirmed.

Hypothesis H_6: If the level of Market Orientation and the level of Marketing Function development are high, then the Firm Performance is high.

Y hat = $b_0 + b_1 x_1 + b_2 x_2$ → *Performance = 3.160 + 0.023(MO level) + 0.045(MF level)*

For every one-unit increase in level of Marketing Orientation and in the level of Marketing Function development, one will see a 0.068 increase of level of Performance. This means that an increase of one unit in MO level and one unit of MF level would result in a Performance level increase of 3.228.

→ Hypothesis H_6 can be confirmed.

Hypothesis H_7: If the level of Market Orientation and the level of Marketing Function development are low, then the Firm Performance is low.

Y hat = $b_0 + b_1 x_1 + b_2 x_2$ → *Performance = 3.160 + 0.023(MO level) + 0.045(MF level)*

For every one-unit decrease in level of Marketing Orientation and in the level of Marketing Function development, one will see a 0.068 decrease of level of Performance. This means that a decrease of one unit in MO level and one unit of MF level would result in a Performance level increase of 3.092.

→ Hypothesis H_7 can be confirmed.

Discussion

Previous studies on the relationship between the concepts of Market Orientation, Marketing Function and Firm Performance found positive relations. In this study, these relationships are tested based on manufacturing B2B SMEs to see if these relationships also exist in this context. To do this, firstly the research question "To what extent is there a link between Marketing Function development and Market Orientation?" was answered.

As Moorman and Rust (1999) describe in their study, a firm's marketing function can and should coexist with a market orientation. The relationship between MO and MF was tested using ADANCO with a model of the relationships between MO, MF and Performance. The only significant relationship in this analysis was between MF and MO. This indicates that there is indeed a positive relationship between the two variables. Therefore, if the Marketing Function development level increases, the level of Market Orientation increases as well. In the case of SMEs in the manufacturing industry, an increase in marketing activities done will also increase the focus on the customers on the market as well as the other way around. Furthermore, this was also tested in the regression analysis in SPSS and the same results were found which confirms the results of Moorman and Rust (1999).

By checking H_{3a} and H_{3b}, the relationships between Market Orientation and Marketing Function are also checked. Both relationships are positive and statistically significant. This means that if a company increases their level of Market Orientation, their level of Marketing Function development will likely also be increased as well as the other way around. Moreover, these results agree with the results of Moorman and Rust (1999) that say that the relationship between MO and MF is bilateral. Nevertheless, the direction of increasing level of MO towards a higher MF is stronger than the other way around. This connects to the highest mean score of MO found in the descriptive statistics. It seems as though more companies are market oriented than having a well-developed marketing function. This was part of the questions asked in the pre-study interviews. All interviewees agreed that companies can be market

oriented without having to have a well-developed marketing function. However, one of the interviewees stated that you can also first have a marketing function and then turn market oriented. This usually rather connects to companies that have resources and can heavily invest in marketing. Nevertheless, the other interview partners agree that one first needs to orientate on the market to be able to create an effective marketing function. Another argument for first being market oriented before establishing a marketing function is that small companies with an entrepreneur as the manager might have a better feeling on how to deal with customers but do not have the resources to establish a marketing function. Another interviewee stated that "you need to be market oriented to be successful in marketing" (Anonymous C, 2019).

However, when testing the relationship between Market Orientation and Marketing Function on firm Performance, it showed that there is a moderator effect in the relationship. This means that a higher Market Orientation level only increases performance when a Marketing Function is present. Therefore, a company needs to have a marketing function in order to be able to become market oriented which can then increase a firm's performance. An existing marketing department might already have ideas on how to reach the market and if they include practices that increase their market orientation, only then firm performance increases as well. If there is no already established marketing function, there was no significant evidence that market orientation increases firm performance (in a whole 4-item construct). If one does not use the moderator variable instead of the variable for Marketing Function, the relationship is statistically insignificant.

To explain the outcomes of the hypotheses, one can interpret the outcomes of the regression equations stated in the results section of this paper. H_1 stated that the higher the level of the Marketing Function development, the better the Performance of a company. Due to the found regression equation, one knows that indeed, a higher level of MF development leads to a better performance. Nevertheless, the increase is just a slight one and can be compared to the outcome of H_2. An increase of the level of Market Orientation indeed increases a firm's performance. Both of these hypotheses were tested as statistically significant. This means that the sample actually confirms the hypotheses that also researchers such as Moorman and Rust (1999) and Day (1994) confirmed.

The highest increase in Performance when comparing the four hypotheses H_4, H_5, H_6 and H_7 is H_6. This indicates that when both the level of Market Orientation and the level of Marketing Function development are high, the Performance is the highest. The lowest performance score is in H_7, where both the level of MO and MF are low. When either one of the levels of MO or MF is high and one is low, the level of Performance is in-between the scores of H_6 and H_7. This can be seen as a medium high level of Performance. Therefore, the hypotheses are confirmed. This answers the second half of the research question of "How does the relationship between Marketing Function Development and Market Orientation affect Firm Performance?".

It is also interesting to see to what extent manufacturing B2B SMEs are market oriented and have a marketing function. Therefore, the descriptive statistics were analyzed. The sample has the highest average score in the variable Market Orientation which ranges between medium and advanced medium Market Orientation. Therefore, the companies tested are slightly customer-centric, still focusing on the own operations as well as looking at what the market needs to gain a competitive advantage. The score for level of Marketing Function development was lower than the one for MO but still indicating a medium developed marketing function. This means that the marketing department or marketing employees are able to a small extent to translate customer needs into new specifications for products as well as being slightly able to increase financial performance through satisfying customers. Another characteristic is that they are slightly able to understand customers effectively and presenting this to frontline employees.

To answer the sub-questions, the outcomes of the pre-study interviews were used. While doing the pre-study interviews, advantages and disadvantages of having a well-developed marketing function were found. When asked for disadvantages of having a marketing function every interviewee was amused and agreed straight away that there are no disadvantages. However, after deepening the question and careful reconsideration, marketing was called costly. Neither of them could talk first-handed about their own company due to all the companies having a marketing function to some extent. Therefore, they assumed what reasons could lead to not having a marketing function. They argued that companies that don't do marketing may not see the true value of it and that most CEOs say it is not necessary and one does not need marketing to be successful. What some interviewees agreed upon was that the effort that was put into marketing can barely be measured and proving that new customers were attracted through marketing rather than only sales personnel activities is hard to do. Marketing can also be done incorrectly which would result in spending money and decreasing a firm's performance. Other reasons for companies not doing marketing are not being educated enough to create an effective marketing strategy. Due to the companies studied being in the manufacturing industry, a lower level of education is found than compared to the medical service industry. One interviewee said: "They don't want to know about marketing. They are not interested enough." (Anonymous D, 2019). Other interviewees agree that there is an overall lack of knowledge on marketing in the industry even if the level of education would be higher. There is no one strategy for every company in this sector and in the B2B branch. That is what also brings issues to the strategy creation. If companies are used to not do marketing and it has worked out for a long time, they think that it will work just like this in the future as well. They do not see the central problem that might become the reason they get bankrupt in the future. Due to the companies being more technical, the usual focus is more on the actual product than on the market. They focus on the current customers and to develop their product and forget about attracting new customers or promoting their sales. Another reason is that if you choose for marketing, it is not done in a few weeks. The process of implementing a marketing function is timely and costs money. A company in this industry is highly technical. Thus, some customers of manufacturing companies order products either

based on tradition since they always bought the products at one company or just choose for the lowest price. That means that companies that do not do marketing can still survive. This technical industry results in having to train marketing personnel to understand all technical aspects of the products to be effective. Therefore, it is common to change an already existing employee's function in the company to a marketing position. This person then needs to teach themselves how marketing works because the knowledge they have is technical. Another reason is that companies like to grow slow and steady and do not want to attract more customers than they already do. If one is able to effectively and correctly measure the input and output connected to marketing activities and see that it pays out in terms of people and new customers, other employees such as the managers are easier influenced to invest more money into marketing which would increase the marketing function development.

When asked for advantages of marketing, the interviewees were quick to name those. The overall biggest advantage was reaching new customers and growing your business. It also makes it easier to make the right decisions on what to develop and who to focus on earlier on and make sure to be ready for whatever unexpected might come up in the future. If you have a highly-developed marketing function, you can sell more. Furthermore, due to the customers and companies having a close relationship in the manufacturing B2B industry, companies can choose the customers they want if they have a highly-developed marketing function. This is because of capacity issues that arise due to the company sizes. Therefore, choosing customers ensures a potential long-term relationship.

Employees in the industry are often not sure what exactly belongs to marketing. This was seen in the interviews when one had to specifically ask them to figure out what marketing activities they do. In some companies there are fluctuations in the orders during the year, also based on orders for their customers. This results in a common agreement that they do not want to grow because if they are growing and there are no orders for a period, they can more easily get bankrupt. The market might not be stable enough to establish a highly-developed marketing function.

An unexpected finding was that when using the adapted version of the firm performance measurement scales by Moorman (1995) from Griffin and Page (1993), the construct of costs, sales, profitability and market share did, taken as one, not have a significant relationship with either Market Orientation, Marketing Function or both. This has been an unexpected finding because only when splitting the construct into its indicators and building new constructs and then rerunning the regressions, one was able to find a statistically significant relationship. Due to the fact that researchers such as Moorman (1995) did not have issues when using these firm performance scales, one can reason that the sample from this study might have been different to other samples of studies. However, Moorman (1995) also had to adapt the firstly developed scales by Griffin and Page (1993). This indicates that there could potentially be a difference in the definition of performance in companies in the manufacturing industry compared to another industry such as the wholesale trade industry.

Another unexpected finding in the SPSS analysis could be seen in the regression analyses testing Performance with MF, with MO and with both of them in connection with the control variables. When increasing the statistically significant control variable of marketing experience by one unit, the performance decreases. This is interesting because logically one would think that the more marketing experience someone has, the more effective the marketing function and the market orientation can be which would result in a higher firm performance. However, this study claims that an increase in marketing experience of a person will not increase performance but rather decrease it in combination with market orientation and marketing function development. When running the regression again with the performance construct including all four indicators (costs, sales, profitability and market share), the decrease in performance gets even higher when increasing the years of marketing experience.

The contribution of this study is a framework on marketing function dimensions, as well as deeper knowledge on to what extent these dimensions are developed in B2B companies. Another part are advantages and disadvantages for companies to implement a marketing function. This knowledge can be further used by the research domain to explain why there might be problems in the development of the marketing function in real life companies or why companies think it is a good idea to develop a marketing function that also integrates market orientation. Managers can use this knowledge to see what advantages a well-developed marketing function brings.

Limitations and Recommendations for Future Research

Every study has limitations that need to be addressed in order to stay credible. A limitation of this study is that due to the low response rate of only 1.7% when adding both samples together, the generalizability of the study can be seen as a problem. This could have been avoided if the research timeframe would have been longer. Nevertheless, the sample size of 36 can bring some valuable insights into the links between Market Orientation and Marketing Function as well as that link in relation to firm performance.

For a potential future research, an analysis with more respondents with the same questionnaire should be done to verify the results. By increasing the sample size, the reliability and thus the generalizability can be increased which would give the study better credibility. When doing this research again, one needs to make sure that the requirements for filling-in the survey are still kept, being only SMEs in the manufacturing B2B industry. Another potential future research could include not restricting the sample based on country because there has not been found a statistically significant influence of country on the relationships between Market Orientation and Marketing Function development on firm performance. Due to the insignificant outcomes when using the four indicators of performance in one construct, one should test those different indicators based on different industries where SMEs operate. Due to the fact

that the indicators of costs and sales needed to be removed, the question arises if the manufacturing industry influenced the outcomes of the questionnaire in these indicators.

Conclusion

The aim of this research was to examine the relationship between marketing function development and market orientation and how this influences a company's performance. Additionally, advantages and disadvantages of having a highly-developed marketing function were found as well as reasons why marketing is challenging in small and medium sized manufacturing B2B firms. The results show that there is indeed a bilateral positive relationship between MO and MF. When establishing a marketing function, a company should be market oriented in order to create an effective marketing plan. The use of a highly-developed marketing function leads to a higher firm performance in terms of profitability and market share. Furthermore, when both market orientation and marketing function development are at a high level, the firm performance is at its highest when comparing it to constructs when one or both factors are low. Therefore, marketing indeed increases firm performance. However, manufacturing companies in the B2B sector still only have medium developed marketing functions. This is due to several reasons. The most often answered reason was people not seeing the value of it. This connects to a lack of knowledge in this sector on marketing strategies and its value. When managers in the manufacturing industry do not think that marketing can bring more value to the company, it is unlikely that a marketing function will be established. Furthermore, the industry the study was conducted in is highly technical. That is why most companies are more focused on product development than attracting new customers. One of the biggest issues at hand is that CEOs in this industry are mostly focused on numbers, so how much money do we put in and how much money do we get out of it. Due to marketing not immediately showing a financial performance increase after implementation, managers often stop the marketing process because it costs too much money.

Nevertheless, there is an overall thinking that marketing activities are valuable and needed if a company wants to increase its customer base. The list of advantages for establishing a marketing function is long when compared to the list of disadvantages. Only disadvantages such as costs and resources (time) were stated while advantages such as growing the customer base, getting more known and more easily making the right decisions.

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Appendix

Appendix A: Variable names and descriptions.

Table 12: Variable Names and Descriptions

Variable name	Description
Education_1	Education overall
Education_2	Education in marketing
Marketing_Ex	Marketing experience
Active	Is that person active in the marketing department?
Mar_Dep_present	Is there a marketing department?
Nr_people_comp	How many people work for the company?
Nr_people_Mar	How many people are in the marketing department?
Years	How many years has the company been established?
Country	What country is the company located in?
MO_A_1 MO_A_2 MO_A_3 MO_A_4 MO_A_5 MO_A_6 MO_A_7	- In this business unit, we meet with customers at least once a year to find out what products or services they will need in the future. - We poll end users at least once a year to assess the quality of our products and services. - We are fast to detect changes in our customers' product preferences.

	- We collect industry information through informal means (e.g. lunch with industry friends, talks with trade partners). - In our business unit, intelligence on our competitors is generated independently by several departments. - We are fast to detect fundamental shifts in our industry (e.g. competition, technology, regulation). - We periodically review the likely effect of changes in our business environment (e.g. regulation) on customers.
MO_B_1 MO_B_2 MO_B_3 MO_B_4 MO_B_5 MO_B_6 MO_B_7	- A lot of informal "hall talk" in this business unit concerns our competitors' tactics or strategies. - We have interdepartmental meetings at least once a quarter to discuss market trends and developments. - Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments. - Our business unit periodically circulates documents (e.g. reports, newsletters) that provide information on our customers. - When something important happens to a major customer or market, the whole business unit knows about it in a short period. - Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis. - There is a lot of communication between marketing and manufacturing departments concerning market developments.
MO_C_1 MO_C_2 MO_C_3 MO_C_4 MO_C_5	- Several departments get together periodically to plan a response to changes taking place in our business environment. - If a major competitor were to launch an intensive campaign targeted at our customers, we would implement a response immediately. - The product lines we sell depend more on real market needs than internal politics. - When we find out that customers are unhappy with the quality of our service, we take corrective action immediately. - When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.

MF_D_1 MF_D_2 MF_D_3 MF_D_4	- Marketing is effective at translating customer needs into technical specifications for new products/services. - I am (currently) relying on marketing to translate customer needs into technical specifications for new products/services. - My firm's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing. - Marketing has the knowledge and skills to translate customer needs into technical specifications.
MF_E_1 MF_E_2 MF_E_3 MF_E_4	- Marketing is effective at linking customer satisfaction/retention to financial outcomes. - I am (currently) relying on marketing to link customer satisfaction/retention to financial outcomes. - My firm's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing. - Marketing has the knowledge and skills to link customer satisfaction/retention to financial outcomes.
MF_F_1 MF_F_2 MF_F_3 MF_F_4	- Marketing is effective at explaining the customer needs to the frontline employees. - I am (currently) relying on marketing to explain the customer needs to the frontline employees. - My firm's (division's) ability to explain the customer needs to the frontline employees resides in marketing. - Marketing has the knowledge and skills to explain the customer needs to the frontline employees.
Performance_cost Performance_sales Performance_profitability Performance_market_share	Performance indicators based on current goal achievements.
Perf_5_cost Perf_5_sales Perf_5_profitability Perf_5_market_share	Performance indicators based on goal achievements compared to 5 years ago.
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.
Perf_cost_mean	Mean scores of all outcomes of Performance based on cost.
Perf_sales_mean	Mean scores of all outcomes of Performance based on sales.
Perf_profitability_mean	Mean scores of all outcomes of Performance based on profitability.
Perf_marketshare_mean	Mean scores of all outcomes of Performance based on market share.
Perf_mean	Mean scores of all outcomes of Performance based on all performance indicators.
Level_MO	Overall scores of Market Orientation based on development level matrix.
Level_MF	Overall scores of Marketing Function based on development level matrix.
Level_Perf	Overall scores of Performance based on development level matrix.
SUM_Perf5_ohnecostssales	Sum of scores of Performance based on 5 years ago without scores of costs and sales.
SUM_Perf5	Sum of scores of Performance based on 5 years ago.
ModeratorMO_MF	Variable of Z scores of MO multiplied by Z scores of MF.

Appendix B: Descriptive Statistics of questionnaire dataset.

Table 13: Descriptive Statistics of New Variables

Statistics

		SUM_Perf5_ohnecostssales	ModeratorMO_MF	SUM_Perf5	Test_SUM_MF	Test_SUM_MO
N	Valid	36	36	36	36	36
	Missing	0	0	0	0	0
Mean		7,1111	,3848	14,1667	39,3611	66,0833
Median		7,0000	,0840	14,0000	41,0000	65,5000
Mode		7,00	1,14	13,00[a]	46,00	65,00
Std. Deviation		1,36858	,87622	2,69921	9,72229	11,32980
Range		6,00	3,79	12,00	38,00	44,00
Minimum		4,00	-1,26	8,00	15,00	46,00
Maximum		10,00	2,53	20,00	53,00	90,00

a. Multiple modes exist. The smallest value is shown

Table 14: Descriptive Statistics of Control Variables

Statistics

		education overall	education in marketing	marketing experience	is that person active in the marketing department?	Is there a marketing department?	how many people are in the marketing department?	How many people work for the company?	how many years has the company been established?	what country is the company located in?
N	Valid	36	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0	0
Mean		2,42	2,08	3,08	1,58	2,78	2,50	3,25	4,75	1,42
Median		2,00	2,00	4,00	2,00	3,00	3,00	3,00	5,00	1,00
Mode		2	2	4	2	4	3	2	5	1
Std. Deviation		,841	,937	1,180	,500	1,290	1,159	1,730	,604	,874
Range		4	3	3	1	4	4	6	3	3
Minimum		1	1	1	1	1	1	1	2	1
Maximum		5	4	4	2	5	5	7	5	4

Table 15: Descriptive Statistics of Market Orientation Generation

Statistics

		Date of filling in the questionnaire	In this business unit, we meet with customers at least once a year to find out what products or services they will need in the future.	We poll end users at least once a year to assess the quality of our products and services.	We are fast to detect changes in our customers' product preferences.	We collect industry information through informal means (e.g. lunch with industry friends, talks with trade partners).	In our business unit, intelligence on our competitors is generated independently by several departments.	We are fast to detect fundamental shifts in our industry (e.g. competition, technology, regulation).	We periodically review the likely effect of changes in our business environment (e.g. regulation) on customers.	MO_A_mean
N	Valid	36	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0	0
Mean		19.04.19	3,86	3,69	3,69	4,00	3,78	3,56	3,50	3,7262
Median		16.04.19	4,00	4,00	4,00	4,00	4,00	4,00	3,50	3,6429
Mode		03.05.19	5	4[a]	4	4	4	4	3[a]	3,00
Std. Deviation		17 01:43:...	1,246	1,142	,889	,986	,929	,998	1,028	,65365
Range		56 00:00:00	4	3	3	3	4	3	3	2,57
Minimum		26.03.19	1	2	2	2	1	2	2	2,43
Maximum		21.05.19	5	5	5	5	5	5	5	5,00

a. Multiple modes exist. The smallest value is shown

Table 16: Descriptive Statistics of Market Orientation Dissemination

Statistics

		A lot of informal "hall talk" in this business unit concerns our competitors' tactics or strategies.	We have interdepartmental meetings at least once a quarter to discuss market trends and developments.	Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments.	Our business unit periodically circulates documents (e.g. reports, newsletters) that provide information on our customers.	When something important happens to a major customer or market, the whole business unit knows about it in a short period.	Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis.	There is a lot of communication between marketing and manufacturing departments concerning market developments.	MO_B_mean
N	Valid	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0
Mean		2,83	2,83	3,36	3,08	3,69	3,03	3,08	3,1310
Median		3,00	2,00	4,00	3,00	4,00	3,00	3,00	3,2857
Mode		2	2	4	4	4	2	3	3,29
Std. Deviation		1,056	1,320	1,046	1,228	1,117	1,253	,937	,75390
Range		4	4	4	4	4	4	4	2,86
Minimum		1	1	1	1	1	1	1	1,71
Maximum		5	5	5	5	5	5	5	4,57

Table 17: Descriptive Statistics of Market Orientation Responsiveness

Statistics

		MO_C_mean	Several departments get together periodically to plan a response to changes taking place in our business environment.	If a major competitor were to launch an intensive campaign targeted at our customers, we would implement a response immediately.	The product lines we sell depend more on real market needs than internal politics.	When we find out that customers are unhappy with the quality of our service, we take corrective action immediately.	When we find that customers would like us to modify a product or service, the departments involved make concerted efforts to do so.
N	Valid	36	36	36	36	36	36
	Missing	0	0	0	0	0	0
Mean		3,6167	3,17	3,06	3,97	4,14	3,75
Median		3,8000	3,00	3,00	4,00	4,00	4,00
Mode		3,20[a]	4	3	4	4	4
Std. Deviation		,64209	1,056	,984	1,055	,833	,967
Range		2,40	4	4	4	4	3
Minimum		2,20	1	1	1	1	2
Maximum		4,60	5	5	5	5	5

a. Multiple modes exist. The smallest value is shown

Table 18: Descriptive Statistics of Marketing Function

Statistics

		Marketing is effective at translating customer needs into technical specifications for new products/services.	I am relying on marketing to translate customer needs into technical specifications for new products/services	My firm's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing.	Marketing has the knowledge and skills to translate customer needs into technical specifications.	Marketing is effective at linking customer satisfaction/retention to financial outcomes.	I am relying on marketing to link customer satisfaction/retention to financial outcomes.	My firm's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.	Marketing has the knowledge and skills to link customer satisfaction/retention to financial outcomes.	Marketing is effective at explaining the customer needs to the frontline employees.	I am (currently) relying on marketing to explain the customer needs to the frontline employees.
N	Valid	36	36	36	36	36	36	36	36	36	36
	Missing	0	0	0	0	0	0	0	0	0	0
Mean		3,28	3,53	2,64	3,28	3,36	3,36	2,86	3,14	3,44	3,64
Median		4,00	4,00	2,00	4,00	3,50	4,00	3,00	3,00	4,00	4,00
Mode		4	4	2	4	4	4	2	3[a]	4	4
Std. Deviation		1,059	1,055	1,046	1,059	,931	1,018	,990	,961	1,107	1,150
Range		4	4	4	4	3	3	3	4	4	4
Minimum		1	1	1	1	2	2	1	1	1	1
Maximum		5	5	5	5	5	5	4	5	5	5

a. Multiple modes exist. The smallest value is shown

My firm's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.	Marketing has the knowledge and skills to link customer satisfaction/retention to financial outcomes.	Marketing is effective at explaining the customer needs to the frontline employees.	I am (currently) relying on marketing to explain the customer needs to the frontline employees.	My firm's (division's) ability to explain the customer needs to the frontline employees resides in marketing.	Marketing has the knowledge and skills to explain the customer needs to the frontline employees.	MF_D_mean	MF_E_mean	MF_F_mean
36	36	36	36	36	36	36	36	36
0	0	0	0	0	0	0	0	0
2,86	3,14	3,44	3,64	3,19	3,64	3,1806	3,1806	3,4792
3,00	3,00	4,00	4,00	3,00	4,00	3,5000	3,2500	3,6250
2	3[a]	4	4	4	4	3,50	3,00[a]	4,00
,990	,961	1,107	1,150	1,283	1,073	,85065	,82291	1,05792
3	4	4	4	4	4	3,25	3,00	4,00
1	1	1	1	1	1	1,25	1,50	1,00
4	5	5	5	5	5	4,50	4,50	5,00

Table 19: Descriptive Statistics of Performance

Statistics

		right now	right now	right now	right now	compared to 5 years ago	compared to 5 years ago	compared to 5 years ago	compared to 5 years ago	Perf_cost_mean	Perf_sales_mean	Perf_profitability_mean	Perf_marketshare_mean
N	Valid	32	32	32	32	36	36	36	36	36	36	36	36
	Missing	4	4	4	4	0	0	0	0	0	0	0	0
Mean		3,34	3,31	3,09	3,31	3,36	3,69	3,56	3,56	3,5417	3,6528	3,4861	3,7917
Median		3,00	3,00	3,00	3,00	3,00	4,00	4,00	3,50	3,5000	3,5000	3,5000	4,0000
Mode		3	3	4	3	3	4	4	3	3,00[a]	3,50	3,00	3,00[a]
Std. Deviation		,827	1,030	,893	,859	,899	,980	,843	,843	,78717	,89298	,76984	,88135
Range		3	3	3	3	4	3	3	3	3,00	3,50	3,50	3,00
Minimum		2	2	2	2	1	2	2	2	2,00	2,00	2,00	2,00
Maximum		5	5	5	5	5	5	5	5	5,00	5,50	5,50	5,00

a. Multiple modes exist. The smallest value is shown

Table 20: Descriptive Statistics of MO, MF and Perf

Statistics

		MO_mean	MF_mean	Perf_mean	Level_MO	Level_MF	Level_Perf
N	Valid	36	36	36	36	36	36
	Missing	0	0	0	0	0	0
Mean		3,4913	3,2801	3,6181	3,5000	3,3611	3,4722
Median		3,4714	3,4167	3,5625	3,0000	4,0000	3,0000
Mode		3,38	3,83	3,38[a]	3,00	4,00	3,00
Std. Deviation		,58827	,81019	,67410	,87831	1,09942	,69636
Range		2,32	3,17	3,13	3,00	4,00	3,00
Minimum		2,40	1,25	2,13	2,00	1,00	2,00
Maximum		4,72	4,42	5,25	5,00	5,00	5,00

a. Multiple modes exist. The smallest value is shown

Appendix C: Regression Assumptions

To check for normality, a P-P plot is created that shows a diagonal line as seen in Figure 5.

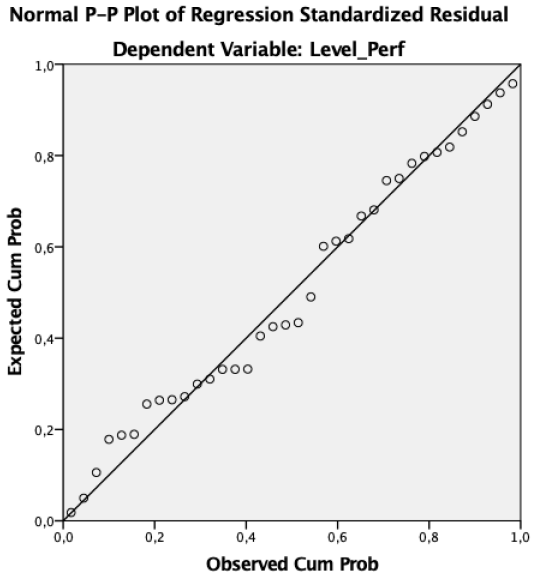

Figure 5: P-P Plot Regression Normality Assumption

In case a model follows a normal distribution, the points should follow the diagonal line. This is an acceptable case with this model which means that the normality assumption is met. Homoscedasticity

can be checked by creating a scatterplot that shows the residuals. In case the scatterplot does not show a specific visible pattern, one can assume that the assumption is met. Looking at Figure 6 down below, one cannot see a real specific pattern.

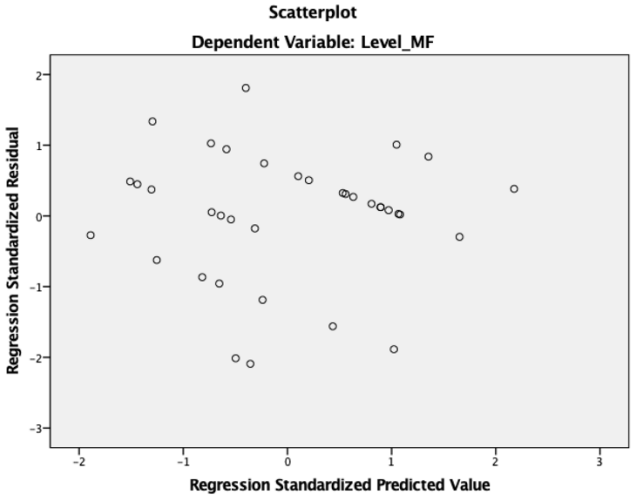

Figure 6: Scatterplot Regression Homoscedasticity Assumption

Due to the assumptions of normality and homoscedasticity being met, there is no need to check the linearity assumption. Therefore, one can go on checking for multicollinearity. This can be done by looking at the VIF score in the Coefficients output of the regression analysis. The VIF score should be below 5 to indicate that the assumption is met. This is the case for all variables, both predicator as well as control variables as seen in Table 25.

Table 21: VIF Score Regression Multicollinearity Assumption

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	education overall	,968	1,033
	education in marketing	,861	1,162
	marketing experience	,845	1,184
	is that person active in the marketing department?	,667	1,500
	how many people are in the marketing department?	,634	1,577
2	education overall	,895	1,117
	education in marketing	,846	1,182
	marketing experience	,790	1,265
	is that person active in the marketing department?	,643	1,556
	how many people are in the marketing department?	,576	1,736
	Level_MO	,660	1,515
	Level_MF	,729	1,371

a. Dependent Variable: Level_Perf

Appendix D: Regression Output (Regression 1)

Dependent Variable: SUM_Perf5
Independent Variables: Test_SUM_MF and Test_SUM_MO
Control Variables: Country, Nr_people_comp, Marketing_Ex, Education_1, Nr_people_Mar, Active

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,437[a]	,191	,024	2,66697
2	,521[b]	,272	,056	2,62262

a. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?

b. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?, Test_SUM_MF, Test_SUM_MO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48,731	6	8,122	1,142	,364[b]
	Residual	206,269	29	7,113		
	Total	255,000	35			
2	Regression	69,290	8	8,661	1,259	,305[c]
	Residual	185,710	27	6,878		
	Total	255,000	35			

a. Dependent Variable: SUM_Perf5

b. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?

c. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?, Test_SUM_MF, Test_SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,380	3,388		4,244	,000
	education overall	1,025	,609	,319	1,683	,103
	marketing experience	-,888	,418	-,388	-2,125	,042
	is that person active in the marketing department?	,513	1,301	,095	,394	,696
	how many people are in the marketing department?	,436	,550	,187	,793	,434
	How many people work for the company?	-,205	,401	-,131	-,511	,613
	what country is the company located in?	-,840	,610	-,272	-1,378	,179
2	(Constant)	9,896	4,263		2,321	,028
	education overall	,850	,628	,265	1,353	,187
	marketing experience	-,915	,412	-,400	-2,224	,035
	is that person active in the marketing department?	,843	1,319	,156	,639	,528
	how many people are in the marketing department?	,517	,561	,222	,920	,366
	How many people work for the company?	-,124	,398	-,080	-,312	,757
	what country is the company located in?	-,919	,634	-,298	-1,449	,159
	Test_SUM_MO	,021	,047	,088	,445	,660
	Test_SUM_MF	,069	,054	,250	1,284	,210

a. Dependent Variable: SUM_Perf5

Appendix E: Regression Output (Regression 2)

Dependent Variable: SUM_Perf5_ohnecostssales
Independent Variables: Test_SUM_MF and Test_SUM_MO
Control Variables: Country, Nr_people_comp, Marketing_Ex, Education_1, Nr_people_Mar, Active

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,496[a]	,246	,090	1,30567
2	,620[b]	,384	,202	1,22289

a. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?

b. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?, Test_SUM_MF, Test_SUM_MO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16,117	6	2,686	1,576	,190[b]
	Residual	49,438	29	1,705		
	Total	65,556	35			
2	Regression	25,178	8	3,147	2,105	,071[c]
	Residual	40,378	27	1,495		
	Total	65,556	35			

a. Dependent Variable: SUM_Perf5_ohnecostssales

b. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?

c. Predictors: (Constant), what country is the company located in?, How many people work for the company?, marketing experience, education overall, how many people are in the marketing department?, is that person active in the marketing department?, Test_SUM_MF, Test_SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7,101	1,659		4,281	,000
	education overall	,389	,298	,239	1,304	,203
	marketing experience	-,434	,205	-,374	-2,120	,043
	is that person active in the marketing department?	,447	,637	,163	,702	,488
	how many people are in the marketing department?	,420	,269	,355	1,558	,130
	How many people work for the company?	-,273	,196	-,345	-1,391	,175
	what country is the company located in?	-,326	,298	-,208	-1,093	,283
2	(Constant)	4,080	1,988		2,053	,050
	education overall	,258	,293	,159	,881	,386
	marketing experience	-,454	,192	-,391	-2,364	,026
	is that person active in the marketing department?	,642	,615	,235	1,045	,305
	how many people are in the marketing department?	,460	,262	,389	1,757	,090
	How many people work for the company?	-,221	,185	-,280	-1,194	,243
	what country is the company located in?	-,360	,296	-,230	-1,218	,234
	Test_SUM_MO	,018	,022	,149	,819	,420
	Test_SUM_MF	,043	,025	,303	1,691	,102

a. Dependent Variable: SUM_Perf5_ohnecostssales

Appendix F: Regression Output (Regression 3)

Dependent Variable: SUM_Perf5_ohnecostssales
Independent Variables: ModeratorMO_MF and Test_SUM_MO
Control Variables: Country, Nr_people_comp, Marketing_Ex, Education_1, Nr_people_Mar, Active

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5,996	1,479		4,055	,000
	education overall	,382	,303	,235	1,261	,217
	marketing experience	-,423	,208	-,365	-2,038	,050
	is that person active in the marketing department?	,886	,562	,324	1,576	,126
	how many people are in the marketing department?	,253	,245	,214	1,033	,310
	what country is the company located in?	-,380	,301	-,243	-1,264	,216
2	(Constant)	3,278	1,718		1,908	,067
	education overall	,269	,290	,165	,925	,363
	marketing experience	-,373	,193	-,322	-1,933	,063
	is that person active in the marketing department?	,910	,517	,332	1,761	,089
	how many people are in the marketing department?	,224	,226	,189	,990	,331
	what country is the company located in?	-,484	,297	-,309	-1,629	,114
	Test_SUM_MO	,049	,020	,407	2,419	,022
	ModeratorMO_MF	-,587	,276	-,376	-2,124	,043

a. Dependent Variable: SUM_Perf5_ohnecostssales

Appendix G: Regression Output (Regression 4)

Dependent Variable: Test_SUM_MO
Independent Variables: Test_SUM_MF
Control Variables: Country, Education_1, Nr_people_Mar

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,348[a]	,121	,038	11,11048
2	,539[b]	,291	,199	10,13899

a. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, education overall

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, education overall, Test_SUM_MF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	542,579	3	180,860	1,465	,243[b]
	Residual	3950,171	32	123,443		
	Total	4492,750	35			
2	Regression	1305,980	4	326,495	3,176	,027[c]
	Residual	3186,770	31	102,799		
	Total	4492,750	35			

a. Dependent Variable: Test_SUM_MO

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, education overall

c. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, education overall, Test_SUM_MF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	55,862	7,102		7,865	,000
	what country is the company located in?	-2,911	2,365	-,225	-1,231	,227
	education overall	4,673	2,458	,347	1,901	,066
	how many people are in the marketing department?	1,221	1,621	,125	,753	,457
2	(Constant)	36,970	9,490		3,896	,000
	what country is the company located in?	-3,550	2,170	-,274	-1,636	,112
	education overall	4,050	2,255	,301	1,796	,082
	how many people are in the marketing department?	1,921	1,501	,196	1,279	,210
	Test_SUM_MF	,497	,182	,426	2,725	,010

a. Dependent Variable: Test_SUM_MO

Appendix H: Regression Output (Regression 5)

Dependent Variable: Test_SUM_MF
Independent Variables: Test_SUM_MO
Control Variables: Country, Nr_people_Mar

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,235[a]	,055	-,002	9,73233
2	,494[b]	,244	,173	8,84148

a. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, Test_SUM_MO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	182,606	2	91,303	,964	,392[b]
	Residual	3125,699	33	94,718		
	Total	3308,306	35			
2	Regression	806,807	3	268,936	3,440	,028[c]
	Residual	2501,499	32	78,172		
	Total	3308,306	35			

a. Dependent Variable: Test_SUM_MF

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?

c. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, Test_SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	40,369	4,754		8,491	,000
	what country is the company located in?	1,790	1,882	,161	,951	,349
	how many people are in the marketing department?	-1,417	1,420	-,169	-,998	,325
2	(Constant)	16,038	9,633		1,665	,106
	what country is the company located in?	2,179	1,715	,196	1,271	,213
	how many people are in the marketing department?	-1,866	1,300	-,222	-1,436	,161
	Test_SUM_MO	,377	,133	,439	2,826	,008

a. Dependent Variable: Test_SUM_MF

Appendix I: Regression Output (Regression 6)

Dependent Variable: SUM_Perf5_ohnecostssales
Independent Variables: Test_SUM_MO
Control Variables: Nr_people_Mar, Marketing_Ex, Nr_people_comp

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,430[a]	,185	,109	1,29207
2	,541[b]	,293	,202	1,22288

a. Predictors: (Constant), how many people are in the marketing department?, marketing experience, How many people work for the company?

b. Predictors: (Constant), how many people are in the marketing department?, marketing experience, How many people work for the company?, Test_SUM_MO

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,133	3	4,044	2,423	,084[b]
	Residual	53,422	32	1,669		
	Total	65,556	35			
2	Regression	19,197	4	4,799	3,209	,026[c]
	Residual	46,359	31	1,495		
	Total	65,556	35			

a. Dependent Variable: SUM_Perf5_ohnecostssales

b. Predictors: (Constant), how many people are in the marketing department?, marketing experience, How many people work for the company?

c. Predictors: (Constant), how many people are in the marketing department?, marketing experience, How many people work for the company?, Test_SUM_MO

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,423	,706		11,925	,000
	marketing experience	-,354	,193	-,305	-1,835	,076
	How many people work for the company?	-,337	,169	-,426	-1,997	,054
	how many people are in the marketing department?	,350	,259	,296	1,350	,187
2	(Constant)	5,993	1,303		4,599	,000
	marketing experience	-,414	,185	-,357	-2,241	,032
	How many people work for the company?	-,314	,160	-,397	-1,965	,058
	how many people are in the marketing department?	,296	,247	,251	1,201	,239
	Test_SUM_MO	,041	,019	,335	2,173	,038

a. Dependent Variable: SUM_Perf5_ohnecostssales

Appendix J: Regression Output (Regression 7)

Dependent Variable: SUM_Perf5_ohnecostssales
Independent Variables: Test_SUM_MF
Control Variables: Country, Education_1, Nr_people_Mar, Marketing_Ex, Nr_people_comp

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,483[a]	,233	,105	1,29459
2	,580[b]	,337	,200	1,22432

a. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, marketing experience, education overall, How many people work for the company?

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, marketing experience, education overall, How many people work for the company?, Test_SUM_MF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15,276	5	3,055	1,823	,138[b]
	Residual	50,279	30	1,676		
	Total	65,556	35			
2	Regression	22,086	6	3,681	2,456	,048[c]
	Residual	43,469	29	1,499		
	Total	65,556	35			

a. Dependent Variable: SUM_Perf5_ohnecostssales

b. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, marketing experience, education overall, How many people work for the company?

c. Predictors: (Constant), how many people are in the marketing department?, what country is the company located in?, marketing experience, education overall, How many people work for the company?, Test_SUM_MF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8,060	,933		8,635	,000
	marketing experience	-,434	,203	-,374	-2,138	,041
	what country is the company located in?	-,272	,286	-,174	-,951	,349
	How many people work for the company?	-,341	,169	-,431	-2,018	,053
	education overall	,387	,296	,238	1,310	,200
	how many people are in the marketing department?	,378	,261	,320	1,451	,157
2	(Constant)	6,286	1,213		5,180	,000
	marketing experience	-,443	,192	-,382	-2,311	,028
	what country is the company located in?	-,336	,272	-,215	-1,236	,227
	How many people work for the company?	-,329	,160	-,416	-2,057	,049
	education overall	,332	,281	,204	1,181	,247
	how many people are in the marketing department?	,435	,248	,369	1,756	,090
	Test_SUM_MF	,047	,022	,334	2,131	,042

a. Dependent Variable: SUM_Perf5_ohnecostssales

Appendix K: Regression Output for hypothesis testing

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,391[a]	,153	,044	1,33838
2	,579[b]	,335	,197	1,22625

a. Predictors: (Constant), is that person active in the marketing department?, marketing experience, what country is the company located in?, how many people are in the marketing department?

b. Predictors: (Constant), is that person active in the marketing department?, marketing experience, what country is the company located in?, how many people are in the marketing department?, Test_SUM_MO, Test_SUM_MF

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10,027	4	2,507	1,399	,257[b]
	Residual	55,529	31	1,791		
	Total	65,556	35			
2	Regression	21,949	6	3,658	2,433	,050[c]
	Residual	43,607	29	1,504		
	Total	65,556	35			

a. Dependent Variable: SUM_Perf5_ohnecostssales

b. Predictors: (Constant), is that person active in the marketing department?, marketing experience, what country is the company located in?, how many people are in the marketing department?

c. Predictors: (Constant), is that person active in the marketing department?, marketing experience, what country is the company located in?, how many people are in the marketing department?, Test_SUM_MO, Test_SUM_MF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6,558	1,423		4,607	,000
	marketing experience	-,358	,203	-,309	-1,765	,087
	what country is the company located in?	-,211	,271	-,134	-,776	,444
	how many people are in the marketing department?	,229	,247	,194	,930	,359
	is that person active in the marketing department?	,874	,567	,319	1,540	,134
2	(Constant)	3,160	1,789		1,766	,088
	marketing experience	-,410	,188	-,354	-2,184	,037
	what country is the company located in?	-,293	,258	-,187	-1,135	,266
	how many people are in the marketing department?	,309	,239	,261	1,295	,206
	is that person active in the marketing department?	,989	,532	,361	1,859	,073
	Test_SUM_MF	,045	,025	,320	1,801	,082
	Test_SUM_MO	,023	,021	,190	1,088	,286

a. Dependent Variable: SUM_Perf5_ohnecostssales

Appendix L: Example Questions for questionnaire

Table 26: Example Questions / Statements for Questionnaire

Section	Example questions
General introduction	- *How many years of experience do you have in marketing?* - *How many people work in your company?*
Market Orientation	***Intelligence Generation*** - *In this business unit, we meet with customers at least once a year to find out what products or services they will need in the future.* - *We poll end users at least once a year to assess the quality of our products and services.* ***Intelligence Dissemination*** - *Marketing personnel in our business unit spend time discussing customers' future needs with other functional departments.* - *Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis.* ***Responsiveness*** - *It takes us forever to decide how to respond to our competitors' price changes.* - *The product lines we sell depend more on internal politics than real market needs.*
Marketing Function	***Customer-Product Connection*** - *Marketing is effective at translating customer needs into technical specifications for new products/services.* - *My firm's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing.* ***Customer-Financial Accountability Connection***

	- *My firm's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.* - *Marketing has the knowledge and skills to link customer satisfaction/retention to financial outcomes.* ***Customer-Service Quality Connection*** - *My firm's (division's) ability to link customer needs to the operations of frontline employees resides in marketing.* - *Marketing has the knowledge and skills to link customer needs to the operations of frontline employees.*