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# Dual Orientation Research: Collision or Collusion? The Interaction of a Return-on-Marketing Orientation and a Relationship Marketing Orientation

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# 1 Introduction

## 1.1 Motivation

In recent years, firms were hit by two severe financial crises: The global financial and economic crisis that struck the world economy in 2007 and the European debt crisis starting in 2009. Up until today, the economic recovery has been weak and “global growth has consistently been slower than the average pace during the dozen or so years before the global financial crisis” (OECD 2015a, p. 9). Especially in the Euro area, growth has been extremely sluggish and economic projections anticipate continued challenging market conditions for firms (see Table 1).

Given this difficult economic environment, firms face mounting pressure on revenues and profit margins. Sales and marketing managers are increasingly forced to show their financial contribution to overall firm performance and are confronted with increased accountability requirements. As captured by the Handelsblatt during the first crisis, “trends in ad campaigns are moving from creative oracles to controlled efficiency” (Handelsblatt 2007).

As a consequence, marketing and sales departments face increased cost pressure, increasing scrutiny to justify costs and higher accountability for the actions they undertake (Stewart and Winsor 2016). This trend is further enhanced by recent developments in the digital economy such as the growing importance of big data, new tools for data analytics and an increased application of artificial intelligence (OECD 2015b; OECD 2017) which facilitate a close monitoring of marketing and sales activities and the compilation and analysis of large customer databases.

**Table 1: Overview of the global recovery gaining momentum only slowly**

	Average						Q4 / Q4		
	2002-2011	2012	2013	2014	2015	2016	2014	2015	2016
<b>Real GDP growth<sup>1</sup> (per cent)</b>									
World <sup>2</sup>	3.9	3.3	3.3	3.3	3.1	3.8	3.3	3.2	3.9
OECD <sup>2</sup>	1.7	1.3	1.4	1.8	1.9	2.5	1.8	2.1	2.6
United States	1.7	2.3	2.2	2.4	2.0	2.8	2.4	1.7	2.8
<b>Euro area</b>	<b>1.1</b>	<b>-0.8</b>	<b>-0.3</b>	<b>0.9</b>	<b>1.4</b>	<b>2.1</b>	<b>0.8</b>	<b>1.8</b>	<b>2.2</b>
Japan	0.7	1.7	1.6	-0.1	0.7	1.4	-0.8	1.9	1.3
Non-OECD <sup>2</sup>	6.7	5.2	5.1	4.7	4.2	4.9	4.6	4.3	5.0

<sup>1</sup> Year-on-year increase; last three columns show the increase over a year earlier.

<sup>2</sup> Moving nominal GDP weights, using purchasing power parities.

Source: Based on OECD (2015a) - Economic Outlook database

At the same time, however, marketing and sales departments also have a long tradition of focusing on value creation for customers and establishing long-term strategic relationships with customers. Investing in creating value for customers and in building relationships with customers is seen as guaranteeing continuous revenue streams and ultimately driving firm performance (*e.g.*, Kalwani and Narayandas 1995; Palmatier 2008). The underlying mechanisms for the positive performance effects that are brought forward include both revenue increases and a reduction in costs (De Wulf, Odekerken-Schroeder, and Iacobucci 2001; Palmatier 2008; Reichheld and Sasser 1990). As a result, managers, for example, not only focus on big but also small accounts in their marketing activities and some managers report that when dealing with reference customers they do not always look at the profitability of the business relationship.



The paragraphs above show that firms do not only follow one orientation for their sales and marketing activities. Instead, two orientations coexist in firms: a return-on-marketing orientation which reflects the constant pressure on revenues and profit margins on the one hand, and a relationship marketing orientation which reflects the drive for establishing long term strategic relationships with customers that pay off on the other.

The key question that arises is how the efficiency pressures stemming from the economic environment go together with the long-established marketing maxim that places the generation of customer value at the core of business activities. At first sight, these two orientations appear as conflicting and the question immediately arises on how the co-existence of these two orientations affects firm performance.

In the marketing research literature, these two orientation threads and their effect on firm performance have a long research tradition, beginning with the early formulations of the marketing concept which contained the “three basic elements” of customer orientation, integrated effort and profit direction (Bell and Emory 1971, p. 39; Bennett and Cooper 1981). More recently, researchers and institutes have put again a strong emphasis on these areas. The Marketing Science Institute, which aims to serve as a bridge between academia and business practice, identified the two areas as two research priorities in its 2014-2016 research program (Marketing Science Institute 2014). Figure 1 provides a short description of these research priorities. In the following, a short overview of marketing research in these two orientation areas is provided.

**Figure 1: Extract from the Marketing Science Institute's research priorities 2014-2016**

<b>Research priorities (RP) 2014-2016 – Marketing Science Institute</b>	
<b>RP3: Measuring and communicating the value of marketing activities and investments</b>	<b>RP6: Creating and communicating enduring customer value</b>
<p>“Marketing accountability concerns were only heightened by the recent economic downturn. Making every dollar count is a marketing imperative for all organizations. To do so requires a keen understanding of all the different brand-building and sales-generating activities an organization may choose to engage in.”</p>	<p>“One of the most important tasks in marketing is to create and communicate value to customers to drive their satisfaction, loyalty, and profitability. Any insights in this area have significant implications for the long-term financial health of an organization. It truly is at the heart of what marketing is all about.”</p>

Source: Based on the Marketing Science Institute (2014)

During the 1990s and early 2000s, much research focused on a relationship marketing orientation. Researchers taking this perspective strongly argue that investing in customer relationships pays off and has a sustainable and positive effect on firm performance and profits (Cannon and Homburg 2001; Kalwani and Narayandas 1995; Verhoef, Franses, and Hoekstra 2002). The underlying idea is that good customer relationships and a high degree of customer satisfaction are the strongest (and sufficient) drivers of firm performance.

In more recent years, a stronger focus has been put on a return-on-marketing orientation which has cautioned against an unguarded investment in customer relationships and against retaining unprofitable customers and products in the portfolio. The latter was emphasized by Srivastava, Shervani, and Fahey (1998) as follows: “No longer can marketers afford to rely on the traditional assumption that positive product-market results will translate automatically into the best financial results” (Srivastava, Shervani, and Fahey 1998, p. 2). Rao and Baradwaj (2008, p. 16) summarized the discussion stating, “there is increasing recognition in marketing that the field must become more financially accountable”. A series of studies showed the importance of avoiding overinvestments in customers, of prioritizing

and trimming down marketing activities and of eliminating unprofitable products and customers (Cao and Cruca 2005; Haenlein, Kaplan, and Schoder 2006; Homburg, Droll, and Totzek 2008). These studies were also fueled by the financial crisis.

Based on these two research streams, researchers have recently taken an interest in analyzing the interaction of the two orientations (Marinova, Ye, and Singh 2008; Matsuno, Mentzer, and Özsomer 2002; Noble, Sinha, and Kumar 2002; Rust, Moorman, and Dickson 2002). They focus on how the interaction of these two orientations affects firm performance and thus whether these two poles are complementary or competing. The results of the empirical studies that have assessed the interaction between the two orientations, i.e. whether these orientations are complementary or competing, have been mixed (Marinova, Ye, and Singh 2008; Matsuno, Mentzer, and Özsomer 2002; Mittal et al. 2005; Noble, Sinha, and Kumar 2002; Rust, Moorman, and Dickson 2002). While some studies find that the interaction of the two orientation leads to higher performance (Marinova, Ye, and Singh 2008; Mittal et al. 2005), others do not find strong positive effects or even show that firms perform better if they only focus on one orientation (Anderson, Fornell, and Rust 1997; Rust, Moorman, and Dickson 2002). These mixed results lead to the definition of the research questions of this dissertation in the next section.

## 1.2 Research questions

Based on the discussion in the introduction, the overarching research question for this dissertation can be formulated as follows:

*Overarching question:* What is the nature of the interaction between a relationship marketing orientation and a return-on-marketing orientation, that is, are these orientations complementary or competing, or even both?

To extend and reconcile the different findings of previous studies exemplified above, my thesis is both assessing a linear and non-linear interaction effect. A non-linear, u-shaped effect could explain the mixed findings: Departing from a low level, a return-on-marketing orientation would have a positive effect on the link between a relationship marketing orientation and firm performance. However, when passing the optimal point, the return-on-marketing orientation would be detrimental for the relationship marketing orientation-performance link. The following research question assesses this non-linearity:

*Research question:* Does a return-on-marketing orientation moderate the financial impact of a relationship marketing orientation in a non-linear, inverse u-shaped way?

To further add to the existing literature, I analyze the role of the competitive context as an additional variable. The competitive context influences companies in both the way they invest in marketing relationships and in their decision on how firmly they pursue a return-on-marketing orientation. For this reason, I assess the role of the competitive environment and its moderating effect on the interaction between the two orientations. This research question can be phrased as follows:

*Research question:* How does competitive intensity moderate the interaction effect of a relationship marketing orientation and a return-on-marketing orientation on firm performance?

I address these research questions through an empirical study based on a cross-industrial survey (see section 1.3.2). Before doing this, however, it is important to understand how dual orientations can be conceptualized and how different studies in the past approached the measurement of dual orientations. In this thesis, I review both the marketing literature and the organizational research literature to benefit from a broad literature basis in the aim of identifying literature fields that have assessed the concept of dual orientations and its effect on firm performance. I subsequently develop a guiding framework for measuring dual orientations. The research questions in this context include:

*Research question:* Which literature streams in marketing and organizational research have dealt with dual orientations and how can they be structured?

*Research question:* What methodologies have been used to measure and assess the interrelations of dual orientations?

*Research question:* How can a framework be developed that links theory building to theory testing and could help guide researchers in identifying a suitable method for assessing particular interrelations of dual orientations?

### **1.3 Research approach**

This section of this dissertation outlines my methodology: In a first step, I identify the methodologies in use in both marketing and organizational research to analyze and measure

dual orientations (Section 1.3.1). In a second step and based on this assessment, I conduct a quantitative empirical study to analyze the interaction between a relationship marketing orientation and a return-on-marketing orientation. Section 1.3.2 provides an overview of the empirical research process, including the data collection process and the empirical framework.

### **1.3.1 Review of dual orientation research**

The first step of the process consists in mapping how different studies in management research have dealt with the concept of dual orientations which this study defines as *the simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance*. While the empirical study of this dissertation focuses on two concrete orientations in marketing research, the literature review in this first step covers both organizational research literature and marketing literature. This is done for two main reasons:

On the one hand, I would like to provide a holistic analysis of the different research streams in management research. On the other hand, I want to fill an important research gap: While numerous studies have assessed the interrelation of two orientations, no study, to the best of my knowledge, has systematically categorized which methodologies have been used in dual orientation research and mapped these against the underlying theoretical and conceptual models and the research questions.

For the literature review, I identify literature on orientation research in the organizational research literature and marketing literature and concentrate on studies on dual orientations. I focus on studies that have appeared in leading organizational and marketing research journals. Based on this collection of articles, I identify main literature fields such as the ambidexterity field in orientation research and the field of contrasting revenue vs. efficiency orientations in marketing research.

Subsequently, I identify how researchers have measured dual orientations and I develop a categorization of different methodologies which range from measuring dual orientations as simply two ends of a continuum to modeling an interaction effect and thus the use of an interaction term. Finally, I aim at developing a guiding framework for the measurement of dual orientations, reflecting about the appropriateness of the different methodologies to assess the duality of orientations and their effect on firm performance (see section 2.4).

### **1.3.2 Empirical study**

The second step, the empirical study then focuses on two orientations poles that marketing and sales managers find themselves in when thriving for financial performance: A return-on-marketing orientation which reflects the constant pressure on revenues and profit margins and a relationship marketing orientation which reflects the strive for establishing long-term strategic relationships with customers that pay off.

To clarify the interaction between these two orientations I take a quantitative empirical approach for two main reasons: First of all, empirical research on this question already exists. Research in this area is beyond an exploratory phase which calls for a quantitative rather than a qualitative approach. Second, different empirical studies have come to mixed results. A quantitative empirical study that models the interaction of the two orientations in a non-linear way could contribute to explain previous divergent findings. Besides assessing the interaction of these two orientation poles, I also assess how competitive intensity moderates the relationship between the two orientations (see section 3.3.3).

The research process for the empirical part of this dissertation includes the development of new scales for the measurement of the two organizational orientations of a return-on-marketing orientation and a relationship marketing orientation and a survey

methodology for data collection. I base the development of the new scales on the literature review on organizational orientations as well as on the findings of in-depth interviews with senior experts from industry. I test the items with industry experts to ensure that they are comprehensible, clear and relevant to practitioners. For the empirical study, I use reflective scales to measure all items.

To collect the data for the empirical study, I use a survey methodology. I develop a questionnaire that contains general questions about the firm, the respondents, the developed construct measures and questions on performance measures of the relevant business unit or the entire firm, if the firm is not composed of several units. In the aim of obtaining generalizable results, I take a cross-sectorial approach and survey B2B and B2C firms. I concentrate the survey on Germany and Switzerland to ensure a homogenous sample with respect to language and cultural conceptions to avoid biases that could arise due to different ways of interpreting the questions in the questionnaires.

My overall sample includes 328 questionnaires filled-in by managers with an average work experience of 16 years (see section 3.4). To obtain financial data on firm performance, I collect independent financial data from a commercial provider of financial firm data which I correlate with responses from managers to validate the replies received from managers. I sort out questionnaires for which independent financial data was not available which results in an exclusion of 27 questionnaires. For the subsequent empirical analysis, I rely on financial data provided by the independent database.



## **1.4 Preview of findings**

### **1.4.1 Methodologies towards dual orientations in management and marketing research**

Section 2 of this dissertation discusses the concept of dual orientations. The literature review reveals that conceptual notions of dual orientations have been developed across different research streams in business and economics research. Streams that have shed light on the notion of duality include marketing research, industrial economics and strategy research, production and operations research as well as organizational research. Across these research streams, researchers have developed different concepts and theories involving dual orientations and have analyzed them from different perspectives.

With respect to empirical studies, dual orientations have developed into an important research area in both marketing and organizational research. In marketing research, the following two research streams have dealt with dual orientations: The first research stream has opposed an orientation focused on revenue increases to an orientation focused on efficiency increases. The second research stream has contrasted a market orientation with another organizational orientation (*e.g.* an innovation orientation or an entrepreneurial orientation). In organizational research, research on dual orientations has mainly been undertaken in the research stream on the orientations of exploration and exploitation which led into the research stream of ambidexterity.

In both marketing and organizational research, it can be observed that researchers' views diverge as to whether the orientations are competing or complementary in nature. This leads to the question on the methodologies that researchers use to assess dual orientations.

Section 2.3 provides a systematic overview of the conceptualizations and methodologies that have been used with a focus on empirical studies. It shows that

researchers have used diverse conceptualizations of dual orientations. They range from conceptualizing duality as simply two ends of a continuum to modeling an interaction effect of the two orientations. The overall finding is that there is not one underlying understanding of how to assess duality and, as a consequence, there is not one underlying theoretical model. Overall, the section also shows that it is important to have a clear conceptual definition of duality when choosing a certain methodology to measure dual orientations to ensure that the measurement methodology matches the concrete concept of duality in mind.

A final important finding of section 2 is that not all methodologies in use take an additional effect on firm performance into account resulting from the interaction of the two orientations. Considering the definition of dual orientations as *the simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance*, it is important to assess not only the direct effects of the two orientations on firm performance, but also whether there is an additional interaction effect and how this affects overall firm performance. The section thus closes with the need for analyzing potential interaction effects in the empirical study in section 3 of this dissertation.

#### **1.4.2 Empirical study: The interaction of a return-on-marketing orientation and a relationship marketing orientation**

The empirical study centers on two orientation poles that have always been at the core of the marketing concept: An orientation towards customers and an orientation towards profits. I refer to the first pole as a *relationship marketing orientation* and to the second as a *return-on marketing orientation*.

The literature review on these two poles in section 3.1 identifies studies that have assessed the juxtaposition of two potentially competing orientation types in these areas: An

orientation taking an *external, customer centric perspective* and an orientation type taking an *internal, efficiency-centric perspective*.

Three main findings result from this literature review: First, results of the studies diverge with respect to whether the two orientations are complementary or competing. Second, to the best of my knowledge, no study has assessed the relationship between the two orientations in a non-linear way. A non-linear interaction effect would provide a way forward to integrate the different views which are both founded on strong arguments. Third, the context variable of competitive intensity and how this variable directly affects the interaction effect has been neglected in existing studies. While some studies have used competitive intensity as one of the key control variables, its direct effect on the interaction effect has, to the best of my knowledge, not been assessed so far.

In the aim of reconciling the mixed findings of whether the two orientation poles are competing or complementary, I propose a model that analyzes not only the direct effects of the two orientations, but also linear and non-linear interaction effects and their overall effect on firm performance. In particular, I propose a non-linear, inverse u-shaped interaction effect to investigate the moderating role of a return-on-marketing orientation on the link between a relationship marketing orientation and firm performance (section 3.3).

Based on a cross-industrial survey of over 300 B2B and B2C businesses and objective firm performance data for the outcome variables, I am able to show that there is an optimal, medium level of a return-on-marketing orientation which maximizes the relationship marketing orientation - firm performance link. Or, in other words, I find that a return-on-marketing orientation moderates the impact of a relationship marketing orientation in a non-linear way. These findings reconcile prior conflicting findings.

In addition, my results show that this “fine line” between a too low and too high level of a relationship marketing orientation becomes even finer as competitive intensity increases: Deviating from the optimal level has an even more severe impact in highly-competitive markets. I am thus able to enhance existing research in demonstrating that competitive intensity is a moderator on the interaction of the two orientations.

These results of my study have important managerial implications: First, it pays off to invest in marketing relationships, including in an economic environment where economic growth is sluggish and challenging market conditions are anticipated. Investing in strategic customers positively affects overall firm performance.

Second, it is important to highlight that this effect can be significantly enhanced if a firm pursues a return-on-marketing orientation, *but only if this orientation is not exaggerated*. Firms need to walk a fine line between consequently monitoring internal profitability and a culture that is too focused on efficiency increases, since a too rigid return and efficiency orientation is detrimental to overall firm performance. This finding is noteworthy in the currently challenging economic context.

Third, finding this balance is even more relevant for managers that operate in a highly-competitive and rough environment. Managers operating under these conditions should realize that deviating from a medium, optimal level of a return-on-marketing orientation has a much stronger negative effect on firm performance than in a market where competitive intensity is lower. To conclude, managers in this environment should dedicate specific resources to identify the optimal, medium level of a return-on-marketing orientation.

## **2 Dual orientations in management and marketing research**

The research of management practice has often acknowledged that different organizational strategies and orientations have to be considered simultaneously in order to maximize organizational performance. More specifically, different research streams have focused on the question whether firms should simultaneously pursue two orientations which can be complementary or can compete for resources.

In marketing research, two research streams have dealt with dual orientations: One stream has juxtaposed an orientation focused on revenue increases to an orientation focused on efficiency increases. The second stream has contrasted a market orientation with another organizational orientation (*e.g.* an innovation orientation or an entrepreneurial orientation). In organizational research, dual orientations have been extensively analyzed in a research stream contrasting the poles of exploration and exploitation which has led the research area of ambidexterity.

To assess whether the two orientations are competing or complementary, research of these different streams has developed different conceptualizations, and, as a consequence used different methodologies in empirical studies. In light of the multitude of themes, research questions and methodologies in use, this section has the research objective of extending the research on dual orientations in several important ways. More specifically, the research objectives are threefold:

First, the section aims at structuring the current research on dual orientations. It provides an overview of major research streams in marketing and organizational research that have dealt with dual orientations. A second objective of this section is to provide a systematic overview of the methodologies and conceptualizations that researchers use when analyzing the relationship between two orientations. The third and final objective of the section is to

develop a framework that links theory building to theory testing. The aim of this framework is to guide researchers in identifying a suitable method for assessing particular interrelations of dual orientations.

The remainder of the section is structured as follows. I start by defining the concept of dual orientations in management research. I then provide an overview of the literature focusing on research that has dealt with dual orientations, first discussing the different conceptual notions of dual orientations that have been developed in different research streams and then focusing on empirical studies in marketing and organizational research.

Subsequently, I describe the methodologies in use. Based on this literature overview, I develop a broad framework of different approaches to the research on dual orientations and conclude with a discussion of the findings.

## **2.1 Defining dual orientations**

A number of terms and definitions have been used to assess the simultaneous pursuit and interplay of two orientations. Commonly used terms to describe orientations within a firm, besides the term “orientation”, include “strategy” (*e.g.*, Hambrick 1983; Porter 1980), “emphasis and strategic emphasis” (Mittal et al. 2005; Rust, Moorman, and Dickson 2002) and “strategic orientation” (Gatignon and Xuereb 1997).

According to Porter (1996, p. 68; 1980), a *strategy* can be defined along the two dimensions of competitive advantage and competitive scope and can be considered as “the creation of a unique and valuable position, involving a different set of activities”. Rust, Moorman, and Dickson (2002) refer to the term of a ‘quality profitability *emphasis*’ as a “primary way of deriving financial returns” (Rust, Moorman, and Dickson 2002, p. 10) and

Gatignon and Xuereb (1997, p. 78) use the term *strategic orientation* to refer to the “strategic directions implemented by a firm to create the proper behaviors for the continuous superior performance of the business”.

The notion of *duality* has been mainly defined in the context of a “dual emphasis”, in the context of the term “ambidexterity” and in the context of the research on the “paradox” concept. In the first context, Mittal et al. (2005) refer to a *dual emphasis* as “focusing on both revenue-expansion and cost-reduction simultaneously, rather than solely emphasizing one over the other” (Mittal et al. 2005, p. 544). Rust, Moorman, and Dickson (2002, p. 10) specify that a *dual emphasis* “tries to implement tenets of both the revenue building and cost reduction approaches simultaneously”. *Ambidexterity* has been defined as “the ability of a firm to simultaneously explore and exploit” (O’Reilly and Tushman 2008, p. 185). In the context of the research on *paradox*, dualities have been defined as “opposites that exist within a unified whole” (Smith and Lewis 2011, p. 387).

For the purpose of this dissertation and based on the discussion above, I define the concept of *dual orientations* as the *simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance*. These orientations can be either complementary (e.g., Mittal et al. 2005) or competing (e.g., Quinn and Rohrbaugh 1983), as illustrated in the literature overview in the next section.

## **2.2 Literature overview on dual orientations**

While section 2.3 focuses on the different methodologies in use to measure dual orientations, this section provides an overview of main literature fields that have conceptualized dual orientations and which have analyzed the concept and its impact on firm performance. It starts with conceptual research on dual orientations before it discusses the empirical research streams in marketing and organizational research.

*Conceptual notions* of dual orientations have emerged across different research streams in business and economics research. They can be found in the research streams of marketing research; industrial economics and strategy research; production and operations research; as well as organizational research. Across these research streams, researchers have developed different concepts and theories of dual orientations and have analyzed them from different perspectives.

In marketing research, dual orientations have been developed in the formulation of the *marketing concept*. Based on a review of the marketing literature of the 1950s and 1960s, Bell and Emory (1971) identified three basic elements of the marketing concept: a customer orientation, a profit direction and integrated effort. In their research, the authors highlight the “dual goals” of a customer orientation and a profit direction stating that “the attempt to provide customer satisfaction may conflict directly with the most basic operational goal of the business - to earn a satisfactory rate of return on its shareholders' investment” (Bell and Emory 1971, p. 40 and p. 42). With a view on practices in firms, they find that “in resolving the conflict between consumer orientation and profits, one element usually dominates while the other is rationalized” (Bell and Emory 1971, p. 40).

In the research area of industrial economics and strategy, Michael Porter (1980) builds on earlier theories of monopolistic and imperfect competition and the concept of price differentiation (Chamberlin 1933; Robinson 1933; Schumpeter 1942) to conceptualize generic strategies. He defines these strategies along the dimensions of how a firm achieves a competitive advantage and how it determines the competitive scope of market coverage. A firm achieves a competitive advantage either by focusing on low costs or on differentiation. Combined with the competitive scope, *i.e.* the choice of either focusing on a broad or narrow



target in the market-place, this leads to Porter's three generic strategies of cost leadership, differentiation and focus.

Porter (1980) especially highlights the *duality* of the two strategies of cost leadership and differentiation which he conceptualizes as two *competing strategies*: "Strategy is making trade-offs in competing. The essence of strategy is choosing what *not* to do" (Porter 1996, p. 70). Differentiation is expensive and hampers cost leadership. Cost leadership, in turn, requires a high level of efficiency and thus gives no room for differentiation. Porter (1998, p. xiv) theoretically concludes that the inability to choose either cost leadership or differentiation leads to the "stuck in the middle" phenomenon and to poor financial performance given "that being the lowest cost producer and being truly differentiated and commanding a price premium are rarely compatible". However, he also acknowledges that while "successful strategies require choice", this does not mean that "companies could ignore cost in the pursuit of differentiation, or ignore differentiation in the pursuit of lowest cost" as "a lowest-cost or differentiated position [...] involves constant improvement" (Porter 1998, p. xiv).

Another conceptual notion of dual strategies in strategy research can be found in the framework of *competing values* developed by Quinn and Rohrbaugh (1983). The researchers distinguish three dimensions of duality which they refer to as three sets of competing values: flexibility versus stability, internal versus external and means versus ends. While Quinn and Rohrbaugh (1983, p. 374) argue that the three pairs of concepts are competing from a theoretical point of view, they also acknowledge that "this does not require that they are empirical opposites [...]". "An organization might be cohesive and productive or stable and flexible", according to the researchers (Quinn and Rohrbaugh 1983, p. 374).

The duality notion has also emerged in the research area of production and operations management which has discussed the *productivity dilemma*. Abernathy (1978) who derived the findings from his research on the automotive sector and its production processes suggests a trade-off between productivity on the one hand and innovation on the other hand and assumes that “short term efficiency and long-term adaptability are inherently incompatible” (Adler et al. 2009, p. 99). For an automotive firm to succeed and compete in the long-run, however, he hypothesizes that besides achieving productivity gains in the short-run, it also needs the ability to innovate. The statement of this productivity dilemma by Abernathy (1978) has motivated researchers not only in the area of production and operations management (Bohn 1995; Brunner et al. 2008; Osono, Shimizu, and Takeuchi, 2008), but also in the organizational research area to undertake work on how this dilemma can be overcome. In the organizational research literature, especially research on the concepts of exploitation and exploration as well as ambidexterity, which is discussed further below, have revisited the productivity dilemma (Benner and Tushman 2003; Benner and Tushman 2015).

Another approach towards dual orientations, which is closely related to the research on dilemma, is the concept of *paradox*. This concept has been introduced to the area of organizational research through discussions in the 1980s to assess tensions and contradictions within organizations as well as the ways of coping with these paradoxes (Cameron and Quinn 1988; Poole and Van de Ven 1989; Smith and Berg 1987). Building on these discussions, Eisenhardt (2000, p. 703) summarizes the notion of paradox as “the simultaneous existence of two inconsistent states, such as between innovation and efficiency, collaboration and competition, or new and old.” Smith and Lewis (2011) take the paradox discussion further in their proposal to develop a theory of paradox. According to Smith and Lewis (2011, p. 386) the paradox concept can be regarded as “contradictory yet interrelated elements that exist simultaneously and persist over time. Such elements seem logical when

considered in isolation but irrational, inconsistent, and even absurd when juxtaposed (Lewis, 2000)”.

When differentiating the notions of dilemma and paradox, *dilemmas* can be regarded as trade-offs and competing choices that have advantages and disadvantages and that solving them “involves weighing the pros and cons” of the choices (Abernathy 1978; McGrath 1962; Smith and Lewis 2011, p. 386). In contrast, contradicting choices co-exist simultaneously in a *paradox*, impeding either/or decisions and requiring organizations to deal with paradoxical tensions (Eisenhardt 2000; Lewis 2000; Smith and Lewis 2011). Managing this “duality hinges on exploring the tension in a creative way that captures both extremes, thereby capitalizing on the inherent pluralism within the duality” (Eisenhardt 2000, p. 703). However, when taking a long-term perspective, Smith and Lewis (2011, p. 387) acknowledge that the concepts of dilemmas and paradoxes may overlap as “a dilemma may prove paradoxical, for instance, when a longer time horizon shows how any choice between A and B is temporary”. In subsequent organizational research, studies in the area of ambidexterity, which are further discussed below have taken a paradoxical approach in stressing that a high performance of firms depends on simultaneously exploring and exploiting (O’Reilly and Tushman 2008; Raisch et al. 2009).

In organizational research, the conceptual foundations for the research streams on *exploration and exploitation* and *ambidexterity* have been provided by March (1991). According to March (1991), the exploration of new possibilities includes issues such as search, variation, risk taking, discovery and innovation. Exploitation involves aspects such as refinement, production, efficiency and implementation. Organizations that solely engage in exploration “are likely to find that they suffer the costs of experimentation without gaining much of its benefits (March 1991, p. 71). On the contrary, organizations that concentrate only

on exploitation “are likely to find themselves trapped in suboptimal stable equilibria” according to March (1991, p. 71). He concludes that organizations have to balance the two orientations carefully in order to achieve high organizational performance. However, given that returns from exploration “are systematically less certain, more remote in time, and organizationally more distant from the locus of action and adaptation“, organizations tend to lean towards increasing the level of exploitation, which, in the long-run, “make adaptive processes potentially self-destructive” (March 1991, p. 73). Based on March’s concepts of exploitation and exploration, the literature of ambidexterity emerges in organizational research which postulates that firms need to “simultaneously explore and exploit” (O’Reilly and Tushman 2008, p. 185) to maximize their financial results.

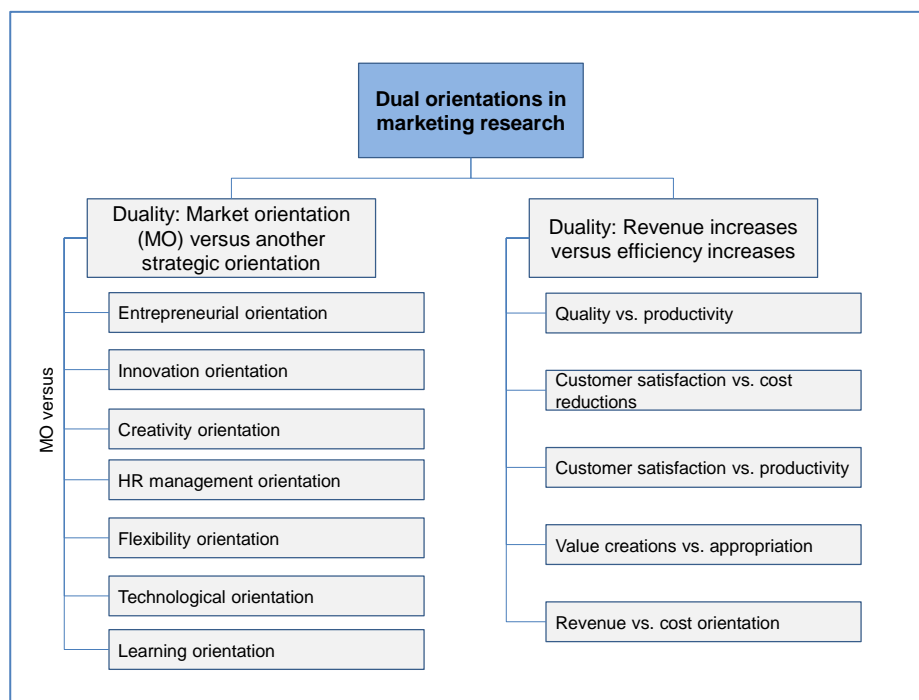
Based on this overview of the conceptual notions of dual orientations, I review empirical studies on dual orientations in the second part of my literature review. I focus on a review of *empirical studies* in the marketing research area as the empirical part of this study is positioned in marketing research. I complement this review by a literature review of empirical studies in the organizational research streams of exploration and exploitation studies as well as ambidexterity studies. In these research streams, an important amount of studies have assessed the same constructs of exploration and exploitation, but have used different methodologies to do so which makes these streams particular relevant to identify the methodologies in use to measure dual orientations.

In *marketing research*, two main research streams can be identified that have dealt with the pursuit of dual orientations (Figure 2). One research stream has contrasted an *orientation focused on revenue increases* with an *orientation focusing on efficiency increases* (e.g., Matsuno, Mentzer, and Özsoymer 2002; Matsuno and Mentzer 2000; Noble, Sinha, and Kumar 2002; Rust, Moorman, and Dickson 2002).

The first orientation typically takes an external, customer focused perspective (for example, a revenue orientation or customer satisfaction orientation). This orientation aims at increasing financial performance indirectly by investing in customer relations and customer satisfaction and thus increasing revenues.

The latter orientation takes an internal efficiency perspective, termed, for example, as a productivity orientation (Anderson, Fornell, and Rust 1997) or cost orientation (Rust, Moorman, and Dickson 2002; Mittal et al. 2005). This orientation gives priority to an increased return focus of marketing investments and cost reductions.

**Figure 2: Overview of dual orientations in marketing research**



When conceptualizing the duality of the two orientations, authors' views diverge as to whether these two orientations are competing or complementary in nature and their empirical studies produce different results. Methodologies in use to model the relationship between the two orientations range from difference scores to linear interaction terms in regression analyses.

A *second research stream in marketing research* has dealt with contrasting a market orientation with another organizational orientation. Based on the abundant literature on the effects of a market orientation on performance, the authors in this research stream develop the market orientation literature further in assessing the interplay between a market orientation and another strategic orientation and the effects of a dual emphasis on firm performance.

Diverse strategic orientations are contrasted to a market orientation (see Figure 2). They include, among others, an *entrepreneurial orientation* (Atuahene-Gima and Ko 2001; Bhuian, Menguc, and Bell 2005; Matsuno, Mentzer, and Özsomer 2002), an *innovation orientation* (Agarwal, Erramilli, and Dev 2003; Berthon, Hulbert, and Pitt 2004; Han, Kim, and Srivastava 1998), a *learning orientation* (Baker and Sinkula 1999) and a *human resource orientation* (Harris and Ogbonna 2001).

It is notable for this research stream that studies by and large take a *complementary* approach when assessing the interplay between the two orientations. From a methodological perspective, several studies assess the mediation of one orientation on the link between the second orientation and firm performance. Other methodologies in use in this research stream include a simple addition of the two variables, linear interaction effects and group and cluster analyses. In addition, one study uses a non-linear, inverse u-shaped interaction effect. This study assesses the moderating effect of entrepreneurship on the relationship between a market orientation and firm performance and finds that market orientation is most effective at a medium level of an entrepreneurship orientation (Bhuian, Menguc, and Bell 2005).

In *organizational research*, the research stream on *exploration and exploitation* and the subsequent research stream of *ambidexterity* have extensive research on the duality of two strategic orientations and its impact on firm performance.

A series of empirical articles address the interrelationship of *exploration and exploitation* based on March's (1991) conceptualization of these orientations (e.g., Hoang and Rothaermel 2010; Sidhu, Commandeur, and Volberda 2007; Uotila et al. 2009). Following these articles, researchers have empirically analyzed the concept of *ambidexterity* and the simultaneous pursuit of exploration and exploitation. Examples of studies of this stream include Andriopoulos and Lewis (2009), Benner and Tushman (2015), Cao, Gedajlovic, and Zhang (2009), He and Wong (2004), Laureiro-Martínez et al. (2015), Luger, Raisch, and Schimmer (2018), Rothaermel and Alexandre (2009) as well as Wassmer, Li, and Madhok (2017). As discussed in the section on the conceptual notions of dual orientations, some researchers also refer to the term of *strategic paradoxes* when discussing ambidexterity (e.g., Gebert, Boerner, and Kearney 2010; Smith 2015).

In contrast to the research streams in marketing research where several different orientations are assessed, studies in these organizational research streams focus on the main constructs of exploration and exploitation. The underlying definitions of the constructs are very similar for each of the two constructs. However, views diverge on whether exploration and exploitation are competing or complementary orientations. In addition, authors use a variety of methodologies that include the simple addition of the constructs, difference and ratio scores as well as interaction analyses to assess the interrelationship between the two orientations.

Table 2 summarizes the literature on dual orientations. It focuses on empirical research but also includes key conceptual articles on which the empirical research builds on.

**Table 2: Overview of related research on dual orientations**

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
<b>Marketing Research – Market orientation and alternative strategic orientations: Empirical studies</b>						
Market orientation and entrepreneurial orientation	Bhuiyan, Menguc, and Bell (2005)	Entrepreneurship orientation Market orientation (MO)	MO is most effective when the firm maintains a moderate level of an entrepreneurship orientation	Organizational	Non-linear, inverse u-shaped interaction effect	Complementary
	Matsuno, Mentzer, and Özsomer (2002)	Entrepreneurial proclivity (EP) MO	EP's performance influence is positive when mediated by MO but negative or non-significant when not mediated by MO	Organizational	Mediation	Complementary
	Atuahene-Gima and Ko (2001)	Entrepreneurship orientation (EO) MO	Classification of firms into four groups: Market/entrepreneurship orientation (ME), EO, MO, conservative firms (CO)  ME firms have higher new product performance than EO, MO and CO firms. ME and MO firms are more proficient in market launch than CO firms	Organizational	ANOVA	Complementary
Market orientation and innovation	Berthon, Hulbert, and Pitt (2004)	Four archetypes (isolate, follow, shape, interact) are developed based on the levels of MO and innovation orientation	Isolate and follow modes permit firms to significantly out-perform other orientations in static or low turbulence environments. In contrast, shape and interact orientations have no significant direct or unmediated impact on performance, but appear to have a significantly positive impact in turbulent environments	Organizational	Measured interaction	Complementary



Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
	Agarwal, Erramilli, and Dev (2003)	MO Innovation	Innovation mediates the relationship between MO and objective performance. The relationship between innovation and objective performance is mediated by judgmental performance	Organizational	Mediation	Complementary
	Han, Kim, and Srivastava (1998)	MO Organizational innovativeness (Mediator)	Higher levels of innovativeness in the firms' culture are associated with a greater capacity for adaptation and innovation  Higher levels of innovativeness are associated with cultures that emphasize learning, development, and participative decision making	Organizational	Mediation	Complementary
Market orientation and creativity	Im and Workman (2004)	MO Creativity (new product (NP) creativity, marketing program (MP) creativity)	NP and MP creativity mediate the relationship between market orientation and new product success	Organizational	Mediation	Complementary
Market orientation and human resource management	Harris and Ogbonna (2001)	MO Strategic human resource management (SHRM)	The association between SHRM and performance is mediated by the extent of market orientation exhibited by the organization	Organizational	Mediation	Complementary

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Market orientation and strategic flexibility	Grewal and Tansuhaj (2001)	MO Strategic flexibility	MO has an adverse effect on firm performance after a crisis. Strategic flexibility has a positive influence on firm performance after a crisis. Market orientation and strategic flexibility complement each other in their efficacy to help firms manage varying environmental conditions	Organizational	Simple addition	Complementary (shown by a correlation of .40 of the two variables)
Market orientation and technological orientation	Gatignon and Xuereb (1997)	Technological orientation Customer orientation Technological orientation	Firms should be consumer- and technology-oriented in markets in which demand is relatively uncertain - together, these orientations lead to products that perform better, and the firm will be able to market innovations better, thereby achieving a superior level of performance	Organizational	Product of the three orientations	Complementary
Market orientation and learning orientation	Baker and Sinkula (1999)	MO Learning orientation	The greater an organization's learning orientation, the stronger the positive relationship between its market orientation and its change in relative market share and the greater an organization's learning orientation, the weaker the positive effect of market orientation on new product success	Organizational	Linear interaction effect	Complementary
<b>Marketing Research – Revenue increases vs. efficiency increases: Empirical studies</b>						
Productivity vs. quality	Marinova, Ye, and Singh (2008)	Productivity orientation Quality orientation Autonomy	Frontline autonomy mediates the positive impact of productivity and quality orientations on unit revenue and customer satisfaction and their negative impact on unit efficiency	Individual	Linear interaction effect	Complementary

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Customer satisfaction vs. cost reductions	Mittal et al. (2005) (based on Rust, Moorman, and Dickson, 2002)	Cost reductions (efficiency perspective)  Customer satisfaction improvements (revenue expansion perspective)	Positive association of customer satisfaction and long-term financial performance. Relatively stronger for firms that successfully achieve a dual emphasis	Organizational	Linear interaction effect	Complementary
Customer satisfaction vs. productivity	Anderson, Fornell, and Rust (1997)	Customer satisfaction  Productivity	While both customer satisfaction and productivity are positively associated with ROI for goods and services, the interaction between the two is positive for goods but significantly less so for services	Individual	Linear interaction effect	Complementary (for goods)
Value creation vs. value appropriation	Mizik and Jacobson (2003)	Value creation  Value appropriation	Stock market reacts favorably if the emphasis on value appropriation relative to value creation is increased	Organizational	Weighted difference score	Competing
Revenue-emphasis vs. cost-emphasis	Rust, Moorman, and Dickson (2002)	Revenue-emphasis  Cost-emphasis	Firms adopting primarily a revenue expansion emphasis perform better than firms trying to emphasize cost reduction and better than firms trying to emphasize both revenue expansion and cost reduction	Organizational	Linear interaction effect and measured interaction	Competing

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Relationship vs. return orientation	Empirical study of this dissertation	Relationship marketing orientation Return-on-marketing orientation	A return-on-marketing orientation moderates the positive effect of a relationship marketing orientation on firm performance in a curvilinear, inverse u-shaped way	Organizational	Linear interaction effect  Non-linear interaction effect	Complementary
<b>Organizational Research – Exploration vs. exploitation and ambidexterity: Empirical studies and simulations</b>						
Exploration/ Exploitation  Ambidexterity	Luger, Raisch, and Schimmer (2018)	Exploration  Exploitation	Maintaining high levels of ambidexterity negatively affects firm performance during discontinuous environmental change  Maintaining high levels of ambidexterity positively affects firm performance during incremental environmental change	Organizational	Linear interaction effect and mean variable over three periods	Complementary
Exploration/ Exploitation  Ambidexterity	Benner and Tushman (2015)	Exploration  Exploitation	Most research suggests that the ability to simultaneously explore and exploit is positively linked to organizational outcomes	--  (Conceptual)	--	Complementary
Exploration/ Exploitation  Ambidexterity	Laureiro-Martínez et al. (2015)	Exploration  Exploitation	Exploration and exploitation are separate behaviors involving different cognitive processes. Superior decision making performance relies on the ability to sequence exploitation and exploration appropriately and to recognize when to switch to exploration	Individual	Study of cognitive processes (functional magnetic resonance imaging)	Complementary

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Exploration/ Exploitation  Ambidexterity	Stettner and Lavie (2014)	Exploration  Exploitation	Exploring via externally oriented modes such as acquisitions or alliances, while exploiting via internal organization, enhances firm performance	Organizational	Exploration/exploitation as two ends of a continuum	Competing
Exploration/ Exploitation  Ambidexterity	Patel, Messersmith, and Lepak (2013)	Exploration  Exploitation	Ambidexterity mediates the relationship between the utilization of a high-performance work system and firm growth	Organizational	Difference score	Complementary
Exploration/ Exploitation  Ambidexterity	Voss and Voss (2013)	Product exploration  Market exploration  Product exploitation  Market exploitation	Cross-functional ambidexterity has complementary interaction effects on revenue.  Product ambidexterity has positive effects on revenue for older and larger, but not smaller, younger firms  Market ambidexterity has positive effects on revenue for larger, but not smaller, younger, or older firms	Organizational	Linear interaction effects	Complementary
Exploitation  Entrepreneurial Orientation	Wales, Parida, and Patel (2013)	Absorptive capacity (ACAP)  Entrepreneurial orientation	There is an inverted u-shaped relationship between ACAP and financial performance. An entrepreneurial orientation moderates the ACAP-performance relationship, enhancing performance at lower ACAP levels and mitigating the negative effects at higher ACAP levels	Organizational	Non-linear interaction effect	Complementary

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Exploration/ Exploitation  Ambidexterity	Yu, Patterson, and de Ruyter (2013)	Service-sales ambidexterity	There is a significant positive relationship between service-sales ambidexterity and financial performance	Organizational	Measured interaction	Complementary
Exploration/ Exploitation	Lavie, Kang, and Rosenkopf (2011)	Exploration/ Exploitation  Function and structure	Firms balancing exploration and exploitation across domains (function/structure) gain in profits and market value	Organizational	Exploration/ exploitation as two ends of a continuum	Competing
Exploration/ Exploitation	Fang, Lee, and Schilling (2010)	Exploration Exploitation	A productive balance between exploration and exploitation can be achieved by breaking an organization down into small semiautonomous subunits with a small fraction of cross-group links	--	Simulation	Competing
Exploration/ Exploitation  Ambidexterity	Hoang and Rothaermel (2010)	(Alliance) exploitation  (Alliance) exploration	An internal exploration competence allows firms to leverage their external exploitation experience more fully. In contrast, when firms combine internal exploitation experience with external exploration experience, the negative effects on R&D project performance become more pronounced	Organizational	Linear interaction effect	Complementary (interaction between external and internal orientations)
Exploration/ Exploitation  Ambidexterity	Andriopoulos and Lewis (2009)	Exploitation  Exploration  Along the dimensions of strategic intent, customer orientation, personal drivers	Virtual circles of ambidexterity consists of three nested paradoxes of innovation: strategic intent (profit-breakthroughs), customer orientation (tight-loose coupling), and personal drivers (discipline-passion)	Organizational	Qualitative	Complementary

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Exploration/ Exploitation  Ambidexterity	Cao, Gedajlovic, and Zhang (2009)	Balance dimension of ambidexterity ( exploration-exploitation )  Combined dimension of ambidexterity (exploration* exploitation)	Over and above their independent effects, concurrent high levels of a <i>balance dimension of ambidexterity</i> and a combined dimension of ambidexterity yield synergistic benefits regarding firm performance	Organizational	Difference score  and linear interaction	Assessment of both competing and complementary nature
Exploration/ Exploitation  Ambidexterity	Mom, van den Bosch, and Volberda (2009)	Exploration related activities  Exploitation related activities	A manager's decision-making authority positively relates to this manager's ambidexterity. Formalization of a manager's tasks has no significant relationship with this manager's ambidexterity	Individual	Measured interaction	Complementary
Exploration/ Exploitation  Ambidexterity	Rothaermel and Alexandre (2009)	Internal exploration, Internal exploitation  External exploration, External exploitation	The relationship between technology sourcing mix and firm performance is an inverted u-shape. Higher levels of absorptive capacity allow a firm to more fully capture the benefits resulting from ambidexterity in technology sourcing	Organizational	Simple addition	Competing
Exploration/ Exploitation  Ambidexterity	Uotila et al. (2009)	Relative exploration orientation (relative amount of exploration versus exploitation)	There is an inverted u-shaped relationship between the relative share of explorative orientation and financial performance. This relationship is positively moderated by the R&D intensity of the industry in which the firm operates	Organizational	Ratio score	Competing

Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Exploration/ Exploitation  Ambidexterity	Sidhu, Comman-deur, and Volberda (2007)	Supply-side, demand-side and spatial exploration and exploitation	The value of supply-side, demand-side, and spatial exploration and exploitation is contingent on the environment. While boundary-spanning supply-side search is positively associated with innovation in more-dynamic environments typical of the entrepreneurial regime phase of technology evolution, such exploration hurts innovation in less-dynamic environments. While boundary-spanning demand-side search is favorably associated with innovation in less-dynamic environments, it harms innovation in a more-dynamic context	Organi-zational	Exploration-exploitation as two ends of a continuum	Competing
Exploration/ Exploitation  Ambidexterity	He and Wong, (2004)	Exploration  Exploitation	Interaction between explorative and exploitative innovation strategies are positively related to sales growth rate. A relative imbalance between the two ORs is negatively related to sales growth rate	Organi-zational	Linear interaction effect  Relative emphasis (difference between two orientations)	Complementary
Exploration/ Exploitation  Ambidexterity	Siggelkow and Levinthal (2003)	Exploration and stability	An initial phase of exploration, enabled by an appropriate organizational structure, followed by refinement and coordination, enabled by a different structure, leads to high performance	Organi-zational	Simulation	Competing



Research area	Author(s), year	Orientations	Main outcomes	Level of data	Analysis of interaction	Joint output effect (competing vs. complementary)
Internal/ external focus  Ambidexterity	Wright et al. (1995)	Internally oriented businesses (defenders)  Externally oriented businesses (prospectors)  Dual emphasis (analyzers)	The internally oriented and the externally oriented businesses have not achieved competitive advantage and are underperformers. The results also portray that the businesses with dual emphasis have achieved competitive advantage and perform well	Organi- zational	Multi-group ANOVA	Complementary
Exploration/ Exploitation  Ambidexterity	March 1991	Exploration  Exploitation	First consideration of the relation between the exploration of new possibilities and the exploitation of old certainties in organizational learning. Adaptive processes, by refining exploitation more rapidly than exploration, are likely to be effective in the short run but self-destructive in the long run	--	Simulation	Competing

Overall, the literature review shows that the interplay of dual orientations has been conceptualized in very different ways. Whereas some authors see a complementary nature of the orientations, others conceive them as rivaling orientations. From a methodological viewpoint, it is interesting to note that several different methods are in use to analyze the interplay between dual orientations, although many of the studies deal with similar research questions and conceptualizations of the interplay. The next section discusses the different methodologies and points to the underlying mathematical differences.

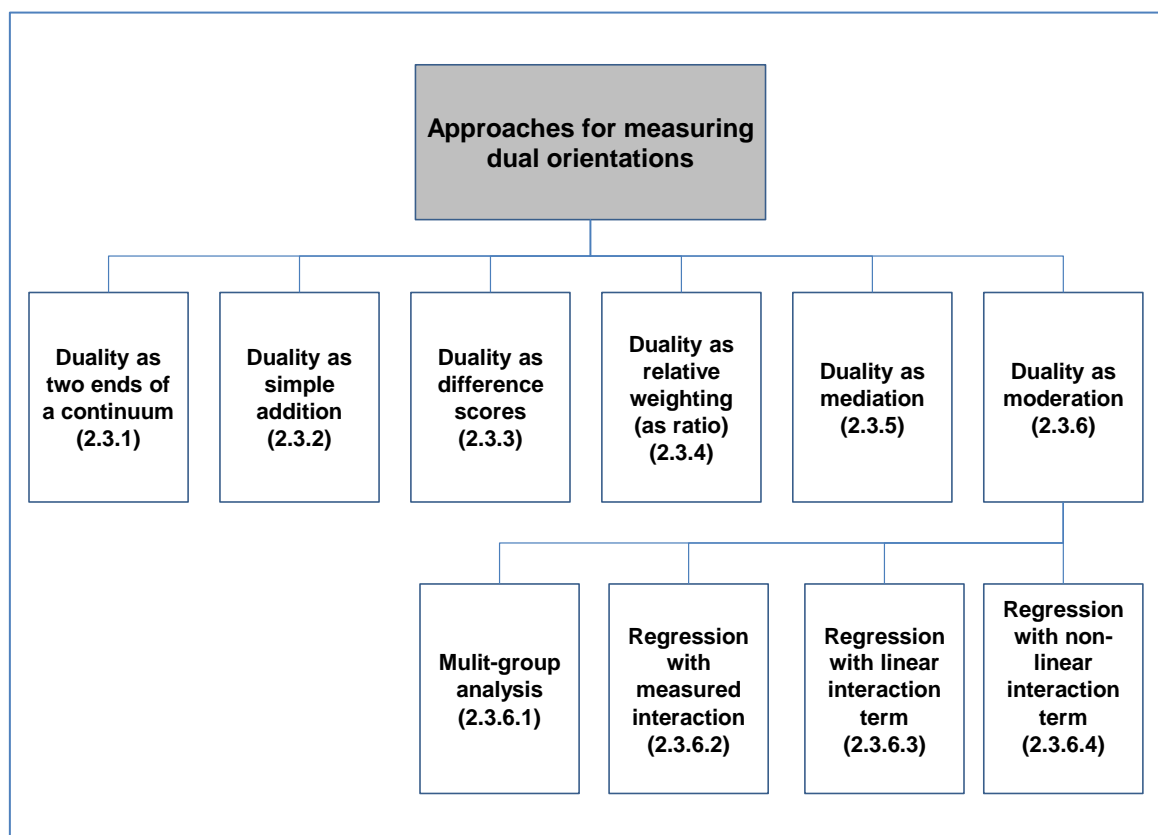
### **2.3 Measuring dual orientations: Methodologies in use**

This section provides a systematic overview of the multiple methodologies that have been used in the above discussed literature streams to assess the interplay of dual orientations. The section focuses on studies where an empirical approach is taken.

When researchers measure this interplay, they have a couple of key questions to answer when choosing the methodology: What core element of the interplay should be modeled and tested by the methodology? Should they model the orientations as two ends of a continuum or rather as orthogonal orientations? Should an explicit interplay of the two orientations be taken into account and its effect on firm performance, or in other words, does this interplay add or detract from the value of the orientations? Should the dual orientations be conceived as interacting and have the potential to reinforce each other mutually? Should the magnitude of the two orientations be considered or is it rather the relative importance of one of the two orientations what matters?

The following paragraphs describe the different methodologies researchers have been using and highlight how researchers approach these questions, how they conceptualize the orientations and their interplay. For each methodology, a *general, exemplary hypothesis* is formulated to highlight the differences between the approaches used by researchers and their implications on the formulation of the hypotheses. Figure 3 provides an overview of the approaches discussed in the following.

**Figure 3: Overview of approaches measuring dual orientations**



### 2.3.1 Duality as two ends of a continuum

Some researchers conceive dual orientations as *two ends of a continuum* (e.g., Lavie, Kang, and Rosenkopf 2011; Sidhu, Commandeur, and Volberda 2007; Stettner and Lavie 2014). This implies that a high level of one orientation automatically translates into a low level of the other orientation. Sidhu, Commandeur, and Volberda (2007, p. 23), for example, conceptualize the dual orientations exploration and exploitation as follows: “We

conceptualize exploration and exploitation as greater or lesser amounts of supply-side, demand side, and geographic search in domains external to the organization to gather new knowledge elements and discover fresh opportunities[...]”. In line with past work (March 1991; Nelson and Winter 1982), this conceptualization implies that, “while a greater amount of search in nonlocal domains denotes a higher exploration, a lesser amount of such nonlocal search is indicative of a higher exploitation orientation” (Sidhu, Commandeur, and Volberda 2007, p. 23).

Using this methodology, researchers assume that it is only necessary to measure the level of one orientation and its effect on firm performance. In generic terms, the general hypothesis could be stated as follows for this conceptualization of dual orientations: *One strategic orientation positively/negatively affects firm performance. The impact of the other orientation is only apparent through low levels of the first orientation.* Sidhu, Commandeur, and Volberda (2007, p. 24) express it in the following way: “All else being the same, the amounts of nonlocal supply-side, demand-side, and geographic search exhibit a positive relationship with innovativeness” (Sidhu, Commandeur, and Volberda 2007, p. 24).

From these definitions and hypotheses formulations, a couple of elements become clear in terms of this conceptualization of duality. First of all, the two strategic orientations are modeled in a non-orthogonal way, they are not independent. Second, only one orientation is modeled in the equation and then tested. The second orientation appears only in an indirect way.

Third, the two orientations do not interact which means that duality here only implies that the two orientations can exist in parallel within one company. However, as mentioned before, if one orientation is highly developed in a firm, the other orientation can

be present, but only at low levels. Finally, as the last sentence shows, the magnitude matters: The degree to which one orientation is developed has a direct impact on firm performance.

### **2.3.2 Duality as simple addition**

Some authors conceive the duality of two strategic orientations within a firm as simply the *sum of the strategic orientations*. The two orientations can be complementary and are typically independent from each other. However, no interaction effect is operationalized which excludes the possibility that the two orientations reinforce each other. As for the case of orientations modeled as two ends of a continuum, the magnitude of the two orientations matters and has a direct effect on firm performance.

Since authors in this category only focus on the simple addition of the orientations, no definition of a duality of the two orientations exists and, consequently, authors do not formulate a hypothesis that directly relates to the duality of the two orientations. Instead, there are two separate hypotheses on the effect of the two orientations on firm performance. Grewal and Tansujah (2001), for example, who assess the role of the orientations of strategic flexibility and market orientation and whether they complement each other in these situations, formulate it in the following manner: (i) “The greater a firm's market orientation, the lower will be the level of firm performance after crisis” (Grewal and Tansujah 2001, p. 71) and (ii) “The greater a firm's strategic flexibility, the higher will be the level of firm performance after crisis.” (Grewal and Tansujah 2001, p. 72). For this conceptualization of dual orientations, a general hypothesis can be stated as follows: *The two strategic orientations positively/negatively affect firm performance separately, but there is no additional interaction effect.*

### 2.3.3 Duality as difference scores

Researchers using a difference score to analyze the duality of two orientations focus on whether the two orientations are matching, i.e. on the *congruence* between two strategic orientations. This duality is operationalized by difference scores such as algebraic, quadratic or absolute differences. Cao, Gedajlovic and Zhang (2009), for example, define what they call the “balance” view of ambidexterity as the “absolute difference of exploration and exploitation” (Cao, Gedajlovic, and Zhang 2009, p. 783). This goes back to He and Wong (2004) who stated that “a firm is regarded as ambidextrous if it has relatively equal emphasis on both dimensions” (He and Wong 2004, p. 484).

Since the focus is on the match, or, in other words, on the *relative emphasis* of one orientation compared to the other, the absolute magnitudes of the orientations do not matter. Only the *relative magnitude* matters according to this conceptualization of dual orientations. According to this definition, duality would be high not only for firms that score high on both orientations but also for firms that score low on both orientations.

For this conceptualization, the general hypothesis on the impact of duality on firm performance can be stated as follows: *The congruence or balance of two strategic orientations positively/negatively affects firm performance.* Cao, Gedajlovic, and Zhang (2009), for example, hypothesize that “the BD [balance dimension of ambidexterity] is positively related to firm performance” (Cao, Gedajlovic, and Zhang 2009, p. 784) and He and Wong (2004) posit that “the relative imbalance (absolute difference) between explorative and exploitative innovation strategies is negatively related to firm performance” (He and Wong 2004, p. 484).

Some key elements derive from this operationalization of dual orientations: Authors who use this approach mainly focus on the match of two orientations and the relative

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magnitude as stated above. Some authors also use the term of a “balance” between the two orientations (Cao, Gedajlovic, and Zang 2009; He and Wong 2004) . An interaction is not modeled which excludes the possibility that the two orientations reinforce each other and that this has an effect on firm performance. In this approach, the principal effect resulting from the interplay between the two orientations is modeled through the difference score, i.e. the match between the orientations.

### **2.3.4 Duality as relative weighting (duality as ratio)**

Studies that take this approach conceive duality as the *relative weight* of one orientation. Compared to the conceptualization of duality as difference scores, the commonality lies in the fact that a balance between the two is also measured but that the focus is on the *relative weight* of one orientation compared to the other instead of the match or difference between the two. In mathematical terms, the duality is operationalized as the ratio of one orientation to, for example, the sum of the two orientations. For instance, Uotila et al. (2009) assess the interplay between exploration and exploitation and operationalize the relative exploration orientation in the following way: “The numbers of exploratory and exploitative words appearing in the documents with the name of the company in the headline are calculated for each company-year. The variable for the *relative amount of exploratory activities* of a company is calculated by dividing *the number of exploratory words* by the *sum of exploratory and exploitative words* per company-year” (Uotila et al. 2009, p. 224). As for the difference score approach, the absolute magnitude of the two orientations does *not* matter.

The hypothesis of how this conceptualization of duality impacts firm performance could be formulated as follows: *The relative weighting of one orientation positively/negatively affects firm performance without taking the magnitude of the two orientations into account.* Uotila et al. (2009), who have a non-linear hypothesis, state that

“The relative exploration orientation of the firm exhibits a curvilinear (inverted u-shaped) relationship to the future financial performance of the firm” (Uotila et al. 2009, p. 223).

The characteristics of this approach can be summarized in some key points. As mentioned above, only the relative emphasis matters. The absolute magnitudes of the orientations do not matter. As for the other conceptualizations assessed so far, an interaction is not explicitly modeled meaning that a mutual reinforcement of the two strategic orientations is not considered.

All the above presented approaches do not take an interaction into account, i.e. that for instance the two orientations reinforce each other in their effect on firm performance. The approaches presented in the following take this interaction into account, either in the form of mediation or moderation. For the latter case, different approaches to model a moderating effect are discussed.

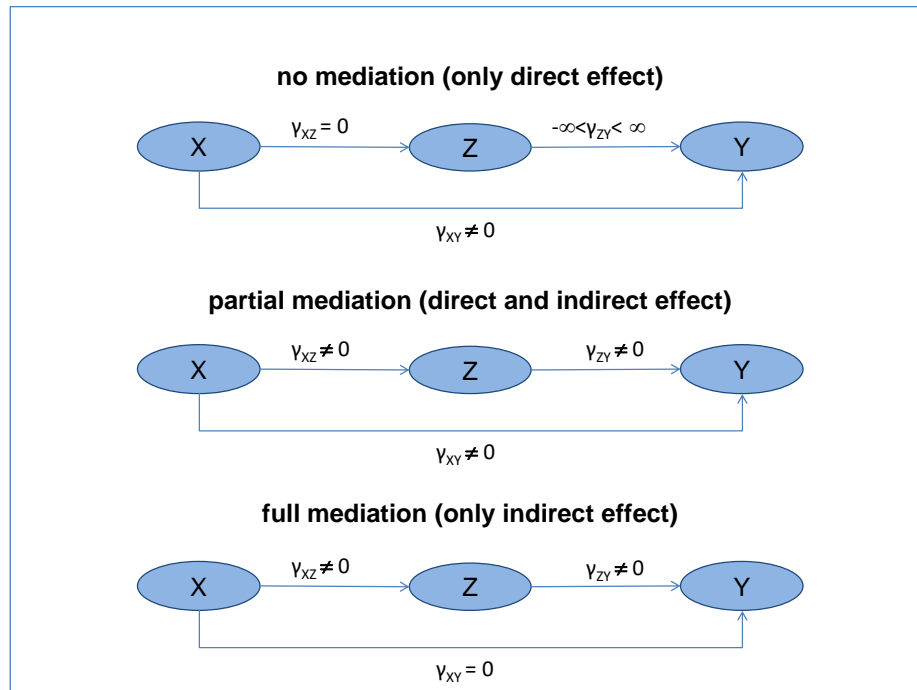
### **2.3.5 Duality as mediation**

In contrast to the above-described approaches towards duality, mediation implies that one orientation has an intervening effect in the link between the other orientation and firm performance. In other words, “mediation indicates that the effect of an independent variable on a dependent variable is transmitted through a third variable, called a mediator variable” (Edwards and Schurer Lambert 2007, p. 1). Han, Kim, and Srivastava (1998), for instance, who assess the strategic orientations of market orientation and innovativeness, assess the mediating role of innovativeness between market orientation and organizational performance and put it the following way: “[...] we explore whether market orientation enhances an organization’s innovativeness and, if so, the extent of the consequences on the level of organizational performance” (Han, Kim, and Srivastava 1998, p. 31). In most of the reviewed studies, the two orientations are considered as complementary.



In mathematical terms, the duality is operationalized as a path analysis where the mediating orientation can either partially or totally account for the relationship between the other strategic orientation and firm performance. Figure 4 provides a graphical overview of different types of mediation, depicting direct and indirect effects.

**Figure 4: The concept of mediation and different types of mediation**



Source: Based on Klarmann (2008), p. 59

A general hypothesis of the interrelation of the two orientations and the effect on firm performance could be phrased as follows: *One strategic orientation positively/negatively mediates the relationship between the other orientation and firm performance.* Harris and Ogbonna (2001), for example, hypothesize that “the link between SHRM [Strategic Human Resource Management] and organizational performance is indirect being mediated by the extent of market orientation” (Harris and Ogbonna 2001, p. 160).

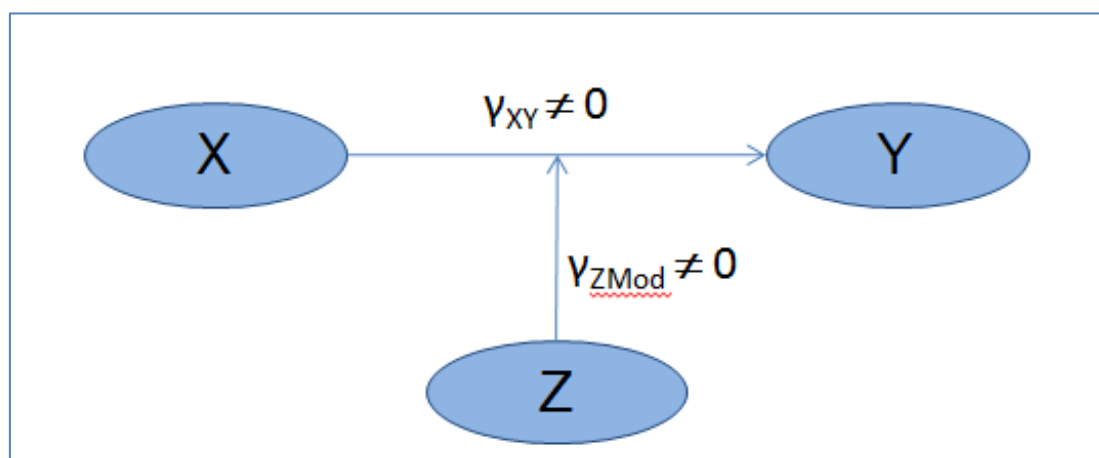
Compared to the other approaches discussed above, this approach is based on a sequential path model to analyze the duality of the two orientations and takes an interaction of the two orientations into account. The absolute magnitude of the two orientations matters

and the orientations are in most cases seen as being complementary as stated for example by Han, Kim, and Srivastava (1998): “Market orientation makes a significant contribution toward superior performance when innovations are accounted for: Market orientation facilitates both technical [...] and administrative [...] innovations, which, in turn, abet corporate performance [...]” (Han, Kim, and Srivastava 1998, p. 38).

### 2.3.6 Duality as moderation

While the above approach modeled interaction as mediation, there are several approaches that conceptualize an interaction of the two strategic orientations as moderation. According to Edwards and Schurer Lambert (2007), “moderation occurs when the effect of an independent variable on the dependent variable varies according to the level of a third variable, termed a moderator variable” (Edwards and Schurer Lambert 2007, p. 1). A moderator variable can thus be defined as “a qualitative [...] or quantitative [...] variable that affects the direction and/or strength of the relation between an independent variable and a dependent or criterion variable” (Baron and Kenny 1986, p. 1174). Figure 5 provides a schematic illustration of a moderation effect.

**Figure 5: Schematic illustration of a moderation effect**



In orientation research, researchers have used different moderation approaches. These include the approaches of (i) a multi-group analysis, (ii) a regression analysis with measured interaction, (iii) a linear regression analysis and (iv) a non-linear regression analysis. These will be discussed in the following.

### **2.3.6.1 Duality as moderation – Multi-group analysis**

Some authors such as Atuahene-Gima and Ko (2001) and Wright et al. (1995) measure the moderating effect in a *multi-group analysis*. The review of existing studies shows that several methods to split the sample into different groups are used. While Wright et al. (1995), for example, rely on a cluster analysis to determine the groups and the number of groups, Atuahene-Gima and Ko (2001) perform a median-split to identify four different groups of firms that scored (i) high on both orientations, (ii) low on both orientations, and (iii) and (iv) high on one orientation and low on the other one: “Specifically, the sample was split at the median on both orientations into high and low groups to form the four groups of firms [...]” (Atuahene-Gima and Ko 2001, p. 64). They thus conceive the duality of the two orientations as a stage where both orientations score high.

To test the differences among the several groups and thus the effect of duality on firm performance, both studies use a multi-group ANOVA test. In terms of hypothesis, Atuahene-Gima and Ko (2001) hypothesize the following: “There are significant differences in new product performance among the four groups of firms [...]” (Atuahene-Gima and Ko 2001, p. 59). A general hypothesis for this group could be derived as follows: *There are significant differences in the (mean) firm performance among the different strategic orientation groups.*

The characteristics of this approach can be summed up as follows: First of all, the approach takes a simultaneous interaction of the two strategic orientations into account. The

overall magnitudes of the orientations matter. In addition, most studies conceive the orientations as orthogonal orientations.

Interestingly, authors in this group that assess the duality of strategic orientations in a multi-group analysis rely mainly on a multi-group ANOVA test which is the most basic form of a multi-group analysis (Klarmann 2008, p. 70).

Another method to test the differences among the groups is a multi-group regression analysis. Different groups are set up for different extents of the strategic orientation variable that serves as the moderator. Subsequently, regression analyses are conducted for each of the groups. Compared to the ANOVA analysis, this method only requires that groups are formed for the strategic orientation variable that is the moderator but not for the other strategic orientation variable. This avoids splitting the sample twice along the two orientation variables (see also Klarmann 2008, pp. 70-72). A general hypothesis to test the duality based on this approach of a multi-group regression analysis could be formulated as follows for each of the groups: *There is a moderating effect of one strategic orientation on the link between the other strategic orientation and firm performance.*

### **2.3.6.2 Duality as moderation – Regression analysis with measured interaction**

A second approach in the category of moderation is to model the interaction effect directly via a separate construct. This construct is based on items that measure to which extent firms focus on a simultaneous pursuit of the two strategic orientations. Rust, Moorman, and Dickson (2002), for instance, describe the measurement of the dual construct as follows: “The six dual emphasis items examined the extent to which firms try to use both approaches simultaneously” (Rust, Moorman, and Dickson 2002, p. 12). The conceptual model contains thus three core constructs.

A general hypothesis for this conceptualization of duality could be the following: *A dual emphasis has an additional positive/negative effect on firm performance and adds to the two strategic orientations.* Rust, Moorman, and Dickson (2002), for example, hypothesize that “a dual emphasis to quality profitability will have stronger positive effects on firm performance outcomes than either a revenue emphasis or a cost emphasis” (Rust, Moorman, and Dickson 2002, p. 11).

Compared to the other approaches that conceptualize duality as moderation, this approach models the duality of strategic orientations in a separate construct. It takes a complementary approach and the orientations are seen as orthogonal orientations. As for the other approaches that conceive duality as moderation, the overall magnitude of the orientations matters and an interaction of the two strategic orientations is taken into account.

### **2.3.6.3 Duality as moderation – Regression analysis with linear interaction term**

A third and popular moderation approach in both marketing and organizational research is the use of a linear interaction term (see *e.g.*, He and Wong 2004; Marinova, Ye, and Singh 2008; Mittal et al. 2005; Rust, Moorman, and Dickson 2002; Yu, Patterson, and de Ruyter 2013).

In this approach, the duality is operationalized by a linear product of the two strategic orientations in the regression analysis in addition to the two strategic orientations. Marinova, Ye, and Singh (2008) describe it as follows: “[...] a simultaneous pursuit of multiple orientations is conceptualized in most previous studies by including a product term involving the focal orientations [...]” (Marinova, Ye, and Singh 2008, p. 31).

A general hypothesis based on this approach could be formulated in the following way: *A dual emphasis constructed from the product of the two orientations has an additional positive/negative effect on firm performance than the two orientations taken alone.*

By relying on this approach, researchers conceive the strategic orientations as orthogonal orientations and assume that they can be mutually reinforcing since they model a real interaction, as it is the case for the other moderation approaches. The overall magnitude of the orientations matters both for the orientations alone and the interaction effect. Gradual levels from a low to a high degree of duality can be measured.

#### **2.3.6.4 Duality as moderation – Regression analysis with non-linear interaction term**

Besides the linear moderation form, a duality of orientations can also be operationalized in a non-linear way. As for the linear interaction, a product term of the orientations is constructed with the difference that at least one of the orientations is non-linear. In addition to this non-linear product term, a linear interaction term can be added. This method is especially interesting when previous studies come to different findings on whether there is a positive or negative interaction effect between the two strategic orientations since this might be explained by a non-linear effect.

So far, to the best of my knowledge, only two studies assess the interaction of two orientations in a *non-linear* way (Bhuian, Menguc, and Bell 2005; Wales, Parida and Patel 2013). Bhuian, Menguc, and Bell (2005), for example, conceptualize “curvilinearity in the moderating effect of entrepreneurship on the relationship between market orientation and performance” (Bhuian, Menguc, and Bell 2005, p. 9). Up to a certain level, “increasing a firm’s level of entrepreneurship will have positive implications for the relationship between market orientation and business performance. Increasing the level of a firm’s entrepreneurship beyond this point, however, will begin to weaken the positive relationship between market orientation and performance” (Bhuian, Menguc, and Bell 2005, p. 12). In their model, the authors include this curvilinear interaction effect without considering a linear interaction effect.

A general hypothesis for this approach can be formulated as follows: *There is a non-linear moderating effect of one strategic orientation on the link between the second strategic orientation and firm performance.* In other words, for instance, in the case of a u-shaped non-linear interaction effect, there is an optimal level of one orientation that maximizes the effect of the second orientation on firm performance. When moving away from this optimal point, this orientation negatively moderates the effect of the other orientation on firm performance.

As for the approach with a linear interaction effect, researchers conceptualize the two strategic orientations as orthogonal orientations. The overall magnitude of the two orientations matters and is important, especially since the moderating orientation has both a positive and negative effect on the link between the other orientation and firm performance.

## **2.4 Towards a methodology framework for measuring dual orientations**

The previous sections have described the multiple methodologies researchers use in order to measure dual orientations. The aim of this section is to contrast the different methodologies in use along several dimensions such as the conceptual, verbal formulation or the measurement model and the dependency analysis which is used (section 2.4.1).

Building on this comparison, section 2.4.2 is developing a guiding framework for researchers for analyzing dual orientations. This framework puts forward a set of key questions for researchers as a guide for their choice of a suitable methodology. For some conceptualizations of dual orientations, researchers can choose between several methodologies. In these cases, methodologies are critically assessed to highlight their advantages and drawbacks over other methodologies.

### 2.4.1 Comparing the different methodologies in use

The overview of methodologies in use in section 2.3 shows two important facts: First, researchers have conceptualized the interplay of two strategic orientations, the duality, in very diverse ways. Some conceive them simply as two ends of a continuum whereas others conceive them as orthogonal orientations, but then differ in their understanding of whether the orientations are competing or complementary. Second, the hypotheses that are used for the interplay of dual orientations and, as a consequence, the methodologies applied by researchers, vary significantly. This is even the case when studies use the same concept, for example, ambidexterity, to assess the interplay between the different orientations.

Table 3 summarizes the approaches described in the previous section and contrasts them across important key characteristics such as the conceptual verbal formulation, the mathematical formulation and whether orientations are competing or complementary. In addition, it gives examples of studies for each approach.

From the table, and especially when looking at the multiple possible mathematical formulations, it is evident that the concept of duality in management research is very *complex* and that there is not *one* underlying understanding of duality. This makes it very hard to compare the different *results* of the studies. Especially on a meta-level, this is close to impossible.

As a consequence, researchers cannot treat duality as one theoretical and conceptual model. Instead, they have an important task in carefully describing *what conceptual model and operationalization* they use and *why* they choose to do so.



**Table 3: Overview of approaches and methodologies to measure the interplay of dual orientations**

Methodology	Dual orientations as two ends of a continuum	As simple addition	As difference scores	As relative weighting - ratios	As mediation - path analysis
Description	The two orientations (ORs) are two ends of a continuum: The degree of one strategic OR is measured only and it is assumed that low levels of this OR mean high levels of the other OR <i>e.g.</i> $Z = \beta_0 + \beta_{X1}X_1 + \beta_{X2}X_2 + \epsilon$ (with $X_1$ and $X_2$ being, for example, two variables of <i>one</i> strategic OR, <i>e.g.</i> $X_1$ measuring supply-side and $X_2$ demand-side exploration)	Simple addition of two orientations. The dual orientations simply add up in affecting firm performance  <i>e.g.</i> $Z = \beta_0 + \beta_X X + \beta_Y Y + \epsilon$	The dual emphasis is conceptualized as the similarity or congruence of two orientations. This is operationalized by a difference score (single index)  <i>e.g.</i> $Z = \beta_0 + \beta_1(X-Y) + \epsilon$ or $Z = \beta_0 + \beta_1 X-Y  + \epsilon$ or $Z = \beta_0 + \beta_1(X-Y)^2 + \epsilon$	The duality is conceptualized as the relative emphasis on one orientation  <i>e.g.</i> $Z = \beta_0 + \beta_1 \frac{X}{X+Y} + \epsilon$	One strategic orientation is the intervening variable between the second strategic orientation and firm performance  Path Analysis $X \rightarrow Y \rightarrow Z$ <i>e.g.</i> $Z = \beta_0 + \beta_Y Y + \epsilon$ $Y = \beta_0 + \beta_X X + \epsilon$
Use in dependence analysis (X, Y denote the two orientations)					
Conceptual, verbal formulation	The extent of one strategic orientation impacts firm performance; the impact of the other strategic orientation is only apparent through low levels of the first orientation	The two strategic orientations affect firm performance but there is no additional interaction effect of the two orientations	The congruence/ match of two strategic orientations affects firm performance without taking the absolute magnitude into account (difference score being the only relevant figure)	The relative emphasis on one orientation affects performance without taking the degree of the two orientations into account (ratio only relevant figure)	One strategic orientation mediates the relationship between the other strategic orientation and firm performance
Nature found in studies mainly	Competing	Complementary	Competing	Competing	Complementary
Illustrative studies	Sidhu, Commandeur, and Volberda et al. (2007), Stettner and Lavie (2014)	Grewal and Tasuhaj (2001)	Cao, Gedajlovic, and Zhang (2009), He and Wong (2004), Mizik and Jacobson (2003)	Uotila et al. (2009)	Han, Kim, and Srivastava (1998)

Methodology	Moderation analysis			
	Multi-group analysis	Regression analysis with measured interaction	Regression analysis with linear interaction term	Regression analysis with non-linear interaction term
Description	The duality is conceptualized as moderation. Different groups are built based on the degree of one strategic orientation that is conceptualized as the moderating orientation. Significant differences among the groups indicate a moderating effect	The dual emphasis construct is based on items that explore to which extent firms focus on a simultaneous pursuit of two orientations	Duality conceptualized as moderation. There is a linear interaction effect between the two orientations that is constructed by the product of both orientations	Duality conceptualized as moderation in such a way that there is an interaction effect that is curvilinear.
Use in dependence analysis (X, Y denote the two orientations)	ANOVA, multi-group regression analysis (with g denoting the group), e.g. $Z = \beta_{0g} + \beta_{Xg}X + \beta_{Yg}Y + \beta_{XYg}XY + \beta_{XY^2g}XY^2 + \epsilon$	e.g. $Z = \beta_0 + \beta_X X + \beta_Y Y + \beta_{DUAL} DUALCONSTRUCT + \epsilon$	e.g. $Z = \beta_0 + \beta_X X + \beta_Y Y + \beta_{XY} XY + \epsilon$	e.g. $Z = \beta_0 + \beta_X X + \beta_Y Y + \beta_{XY} XY + \beta_{XY^2} XY^2 + \epsilon$ $Z = \beta_0 + \beta_X X + \beta_Y Y + \beta_{XY} XY + \beta_{XY^2} XY^2 + \epsilon$
Conceptual, verbal formulation	ANOVA: There are significant differences in the (mean) firm performance among the different strategic orientation group.  Multi-group regression analysis: There is a moderating effect of one strategic orientation on the link between the other strategic orientation and firm performance	A dual emphasis has an additional effect on firm performance than the two strategic ORs taken alone	A dual emphasis that is constructed by the product of the two ORs has an additional effect on firm performance than the two strategic ORs taken alone	There is a curvilinear moderator effect of one strategic OR on the link between the second strategic OR and firm performance
Nature found in studies mainly	Complementary	Complementary	Complementary	Complementary
Illustrative studies	Atuahene-Gima and Ko (2001), Wright et al. (1995), own analysis	Rust, Moorman, and Dickson (2002)	He and Wong (2004)	Wales, Parida, and Patel (2013), Bhuian, Menguc and Bell (2005), own analysis

The subsequent question is how to choose a methodology. The question of whether any approach should be favored over another is hard to answer since the general theoretical question of duality can indeed be measured by different approaches. In addition, it also depends on other factors such as, for example, the number of studies already conducted in a particular research area. If, for instance, several studies in one area have assessed the duality of two orientations by using a linear moderation approach and come to different results, this might call for using a non-linear approach in a subsequent study as a curvilinear hypothesis might explain the different findings. It is important to note, however, that the choice of the concrete methodology should be based on a thorough theoretic model and a set of well-founded hypotheses.

Although there is no easy answer to the concrete selection of a methodology, there are some key conceptual questions that can provide a guide to researchers through the different methodologies and ease the selection of a concrete approach. In cases where some key questions lead to multiple methodologies that can potentially be used, advantages and drawbacks of each methodology need to be assessed. The next section aims at developing a guiding framework that links key conceptual questions to the choice of methodologies and that evaluates the different methodologies.

#### **2.4.2 A guiding framework for measuring dual orientations**

The previous sections provided an overview of the multiple methods in use to assess the duality of two strategic orientations in management and marketing research. What concrete methodology a researcher should choose depends on multiple factors such as the conceptualization of duality, the underlying theory, the research area or again the maturity of the research stream.

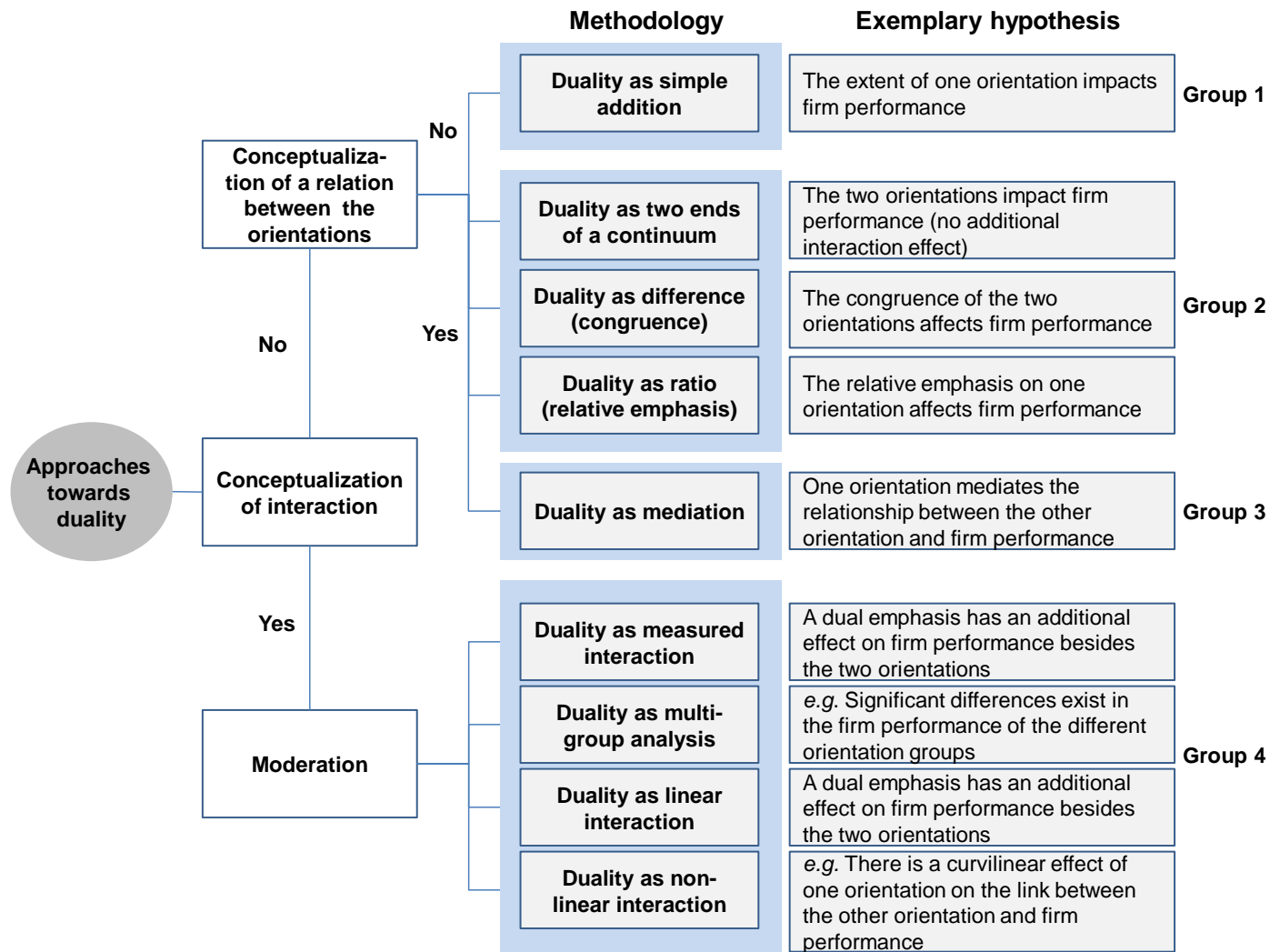
This section departs from the conceptualization of duality. It develops key conceptual questions to guide the decision making process of which methodology to use. Subsequently, when different methodologies can be used based on the conceptual questions, reflections are made on their appropriateness to assess the duality of orientations in firms and their effect on firm performance. In the following, a framework is developed based on these key conceptual questions with the aim to guide the decision about the appropriate methodology. This framework is depicted in Figure 6.

At the beginning of section 2, the concept of duality was defined as the *simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance*.

The first important question from a conceptual point of view on duality is the question of whether the model should account for an additional effect resulting from the fact that the two orientations *interact*. In other words, should an additional effect of the two orientations on firm performance be conceptualized that goes beyond the pure co-existence of the two orientations in a firm? If this is the case, a method should be chosen that allows for a reinforcing - or attenuating - effect of the duality on firm performance in addition to the two orientations' effects.

While many would probably argue that the assessment of an interaction effect of the two orientations should automatically be included in the assessment of duality, a number of studies could be identified that rely on approaches where the hypotheses and methodologies do not account for such an effect.

Figure 6: Methodology framework for dual orientations



These include the following approaches:

- i. Duality as simple addition,
- ii. Duality as two ends of a continuum,
- iii. Duality as difference scores,
- iv. Duality as ratio (relative emphasis), and
- v. Duality as mediation.

If researchers deliberately choose to exclude an additional interaction effect, they *should clearly specify this in their study*. If this path is chosen, the next conceptual question is whether to simply add the two orientations or whether to assess the relation between the orientations (see Figure 6).

The first case, the simple addition of two orientations, is the most basic approach when assessing the duality of two orientations. It can be questioned whether a duality is really assessed at all (Group 1 in Figure 6) as simply the constructs' main effects are considered in the regression equation (see Table 3). A possible interaction of the two orientations is not considered, nor a specific relationship between the orientations. As such, the two orientations simply appear as two variables in, for instance, a regression analysis. This approach can thus be seen as probably the simplest view of a duality of orientations within an organization.

If the core research interest focuses on the question of *how the two orientations relate to each other* rather than the *interaction* of the orientations, four different approaches can be used to assess the duality (Groups 2 and 3 in Figure 6). While these approaches all assess the relation between the two orientations, they differ significantly in the conceptualization of this relation.

The first approach considers the two orientations as two ends of a continuum, the second approach focuses on the question whether the two orientations are congruent (duality as difference score) and the third approach analyzes the question of whether a relative emphasis is put on one of the orientations (duality as ratio). The fourth approach, mediation, focuses on the causal succession of the two orientations.

In the first case - duality as two ends of a continuum - only one orientation is modeled and measured and the second orientation is solely considered in an indirect way which means that the two orientations are modeled as fully competing. The level of the second orientation is fully determined by the level of the first orientation. For the measure development, this means that only one orientation is measured. To illustrate this, Sidhu, Commandeur, and Volberda (2007), for example, only develop items to measure the exploration orientation, but not the exploitation orientation. They assume that the more exploration-oriented firms score higher on their assortment of demand-side search items while the relatively more exploitation-oriented firms “score lower on one or more items, resulting in a lower average score” (Sidhu, Commandeur, and Volberda 2007, p. 27).

This approach for analyzing the duality of orientations is suitable for assessing orientations that are *logically mutual exclusive*. For orientations that not fully exclude themselves mutually, it can be highly questioned whether low levels of one orientation automatically imply a high level of the other orientation within an organization and vice versa. If this approach for measuring duality is chosen, it is crucial to provide evidence for this line of thinking, i.e. to make the case that the orientations are mutually exclusive. In all other cases, it is doubtful whether the duality of the two orientations would be well measured by this approach.

In the second approach, duality as difference score, the duality is conceptualized as a congruence or similarity between the two orientations. The magnitude of the difference between the two orientations indicates the lack of congruence between the orientations. This approach is suited if the aim is to assess the effect of the congruence of two orientations on firm performance. When applying this method, duality is modeled as a mathematical difference score (see Table 3).

From a purely methodological point of view, it has to be noted that the difference score approach is criticized for a number of reasons (Edwards 1994; Edwards 2001; Johns 1981; Peter, Churchill, and Brown 1993). Several problems have been cited with respect to this method. They include the following:

- (i) a lower reliability of the difference score than the average reliability of its components when the two component measures are positively correlated,
- (ii) problems with discriminant validity because the difference score might lower reliability and can thus attenuate correlations creating “the illusion of meeting discriminant validity standards simply because of low reliability” (Peter, Churchill, and Brown 1993, p. 659),
- (iii) variance restrictions which “arise when one of the components [...] is consistently higher than the other (Peter, Churchill, and Brown 1993, p. 660), and
- (iv) spurious correlations with other variables (Edwards 2001; Johns 1981; Peter, Churchill and Brown 1993).

In addition to the above mentioned challenges, Edwards (1994) notes that “each [difference] index is inherently ambiguous, confounds the effects of its constituent components, and implies a set of constraints that are rarely tested” (Edwards 1994, p. 71).



The third approach in the category of approaches focusing on the relationship between the two orientations models duality as a ratio score. This approach can be applied if the research interest centers on the relative emphasis on one orientation relative to the other orientation. In management research, ratio scores are often used to “control for the systemic effect of size on the variables under examination” (Lev and Sunder 1979, p. 187). In other words, if this conceptualization is chosen, the magnitudes of the orientations do not matter and size effects of the orientations are explicitly excluded. The duality is modeled as a ratio index (for example, one orientation divided by the sum of the two orientations).

Whether a firm puts a large effort in achieving high levels of these orientations or only manages to attain low levels in both orientations does not matter as long as the overall ratio remains the same. Using this approach, it is thus not possible to determine which levels of the respective orientations are best for maximizing firm performance. Instead, this conceptualization focuses on determining the best relative emphasis on one of the two orientations in order to obtain the best firm performance.

In addition, the one study in the sample that conceptualized duality as a ratio (Uotila et al. 2009) did not consider direct effects of the two orientations on firm performance and focused solely on the ratio. From a conceptual view, the orientations had no direct effect on firm performance. This can be considered a strong assumption.

The approach of mediation is the fourth approach in the category of approaches focusing on the relationship between the two orientations (Group 3 in Figure 6). It differs from the approaches mentioned above in that it models the relationship as an *effect chain* between the two orientations and firm performance. The relationship of the two orientations is conceived as a sequential path where one orientation *mediates* the relationship between the other orientation and firm performance (see also section 2.3.5). To illustrate the approach,

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Mathieu, DeShon, and Bergh (2008), for example, define the concept as “an analytic framework for investigating the causal hypothesis that an independent variable (X) causes a mediator (M), which, in turn, causes a dependent variable (Y):  $X \rightarrow M \rightarrow Y$ ” (Mathieu, DeShon, and Bergh 2008, p. 212 with reference to Holland 1988 and Sobel 1990).

From a conceptual point of view, this means for the interplay of the orientations that there is a clear *causal order* among the two orientations, i.e. one orientation is causing the other orientation. It is clearly defined which of the two orientations is the mediating orientation and it is this effect path (see also Figure 5) and not the product of the two orientations as in the case of moderation that has an impact on firm performance.

This approach can be used if there are clear arguments for a causal order between the two orientations, as it can, for instance, be established for a marketing orientation and an innovation orientation where “innovations facilitate the conversion of market-oriented business philosophy into superior corporate performance” (Han, Kim, and Srivastava 1998, p. 41).

Consequently, this approach should not be used for orientations that have no direct causal links, such as for instance, a customer orientation and a return or efficiency orientation that are rather unrelated and potentially competing orientations. In addition, the approach of mediation allows to take the absolute magnitude of the different orientations and their effect on firm performance into account.

Overall, researchers who choose this approach should have a specific and clear sequential causal path model in mind. A mediation hypothesis should be clearly stated and not only stand-alone hypotheses for different sections of the path model (see also Klarmann

2008, p. 65). In addition, this is “best done in the case of a strong relation between the predictor and the criterion variable” (Baron and Kenny 1986, p. 1178).

Getting back to the methodological framework for dual orientations, many authors *do* depart from the thought that the model should account for an *effect resulting from the direct interaction* between the two orientations, i.e. from the conceptualization that the duality itself has an enhancing or weakening effect on firm performance (Group 4 in Figure 6). This last group of the methodology framework analyzes the duality of orientations through a moderation approach.

The interaction approach is well-suited when researchers’ core interests consist of analyzing the strength of the interplay of two orientations that exist in parallel in a firm and the effect of this interplay on firm performance. Or, in other terms, a moderation approach should be used if researchers assume that the relationship or the strength between one orientation and firm performance is affected by a second orientation, i.e. whether “the relationship [...] is contingent” (Aguinis, Gottfredson 2010, p. 776).

Furthermore, both underlying orientations are conceptually at the same level and there is no causal relationship as stated by Baron and Kenny (1986): “Unlike the mediation-predictor relation (where the predictor is causally antecedent to the mediator), moderators and predictors are at the same level in regard to their role as causal variables antecedent or exogenous to certain criterion effects. That is, moderator variables always function as independent variables, whereas mediating events shift roles from effects to causes, depending of the focus of analysis” (Baron and Kenny 1986, p. 1174). In addition, the overall magnitude of the two orientation variables is considered when estimating both the effects of the single orientations and the interaction effect on firm performance.

When an interaction is taken into account, the following different methodologies can be considered to assess the duality of orientations: (i) duality as a measured interaction, (ii) duality as a multi-group analysis, (iii) duality as a linear interaction, and (iv) duality as a non-linear interaction.

While the method of measured interaction is not used very often to detect an interaction of two orientations, two more popular methods in use and described in section 2.3.6 are a multi-group analysis and a moderated regression analysis with linear and/or non-linear interaction terms (see also sections 2.3.6.2-2.3.6.4). These methods can all identify moderator effects, but some should be used carefully since they can entail some deficits.

Table 4 provides an overview of methods that can be used based on the scale levels of variables. For instance, if both independent variables (i.e. predictor and moderator) are categorical variables, an analysis of variance (ANOVA) can be used to identify a moderation effect. If, for example, the moderator is a nominal variable and the predictor a continuous variable, it is not possible to conduct a regression analysis with an interaction term, but researchers need to rely instead on a multi-group regression analysis in which they conduct regression analyses for each of the groups to detect moderation effects (Klarmann 2008, p. 69).

**Table 4: Overview of moderation methods based on scale levels**

	Scale levels	Moderator variable	
		Categorical	Continuous
Predictor variable	Categorical	ANOVA	Regression analysis with interaction term (linear/non-linear)
	Continuous	Multi-group regression analysis	Regression analysis with interaction term (linear/non-linear)

Source: Based on Helm and Mark (2012)

Because of the high intuitiveness of *multi-group analyses* and the interpretation of their results, these methods are not only used for categorical variables, but also for continuous variables (see Klarmann 2008, p. 69 and the studies referenced in section 2.3.6). However, researchers should be cautious in doing so, especially for the case of an ANOVA analysis.

Among the different methods for testing moderation effects, ANOVA is the most basic multi-group analysis. For continuous variables, typically both the moderator variable and the predictor variable are dichotomized (Klarmann 2008, p. 70) so that the sample is split into a total of four groups. An analysis of variance is subsequently conducted to analyze whether the means of the dependent variable differ significantly between the groups.

Research in the past has cautioned against using this approach for continuous variables that are transformed (*e.g.* through median splits) into categorical variables and when a moderated regression analysis with interaction term could have been used instead. One of the main critiques is the change in statistical significance and thus the loss of power that occurs when the sample is split into groups (Irwin and McClelland 2001; Maxwell and Delaney 1993; Stone-Romero and Anderson 1994). This problem occurs even twice when relying on the ANOVA approach and dichotomizing *both* the moderator *and* the predictor. The reason for the loss of power is “that in the process of polychotomizing moderator variable scores a great deal of information is lost” (Stone-Romero and Anderson 1994, p. 355). According to Maxwell and Delaney (1993), this loss of information “reduces measurement precision, underestimates the magnitude of bivariate relationships, and lowers statistical power for detecting true effects” (Maxwell and Delaney 1993, p. 181 based on Cohen 1978; Humphreys and Fleishman 1974; Maxwell, Delaney, and Dill 1984). As a consequence, moderation effects are harder to detect.

Another criticism regarding dichotomizing continuous measures is that it may lead to an overestimation of the strength of the relationship and thus result in an increased Type 1 error (Maxwell and Delaney 1993). Median splits of samples may thus increase the possibility of both type I and II errors (Irwin and McClelland 2001).

A second multi-group method used to detect moderation effects is the multi-group *regression* analysis where regression analyses are conducted for each of the groups and significance tests are conducted that either compare the different correlation coefficients or regression coefficients. This method can be useful, for example, if the model contains more than one moderator variable. If continuous moderator variables are used, the same caveats apply as for the ANOVA analysis. However, compared to an ANOVA, this method only requires that groups are formed for the moderator variable and not the other strategic orientation variable.

When undertaking a multi-group regression analysis, past research recommends comparing the regression coefficients rather than the correlation coefficients for two reasons: The first reason is the underlying assumption of the correlation method in that “the independent variable has equal variance at each level of the moderator” (Baron and Kenny 1986, p. 1175). The second reason for not using the correlation method is that “if the amount of measurement error in the dependent variable varies as a function of the moderator, then the correlations between the independent and dependent variables will differ spuriously” (Baron and Kenny 1986, p. 1175).

Overall, when comparing the multi-group methods to the method of a regression analysis with interaction term, researchers recommend to use the latter method if this is possible (i.e. variables are continuous) in order to avoid the problems mentioned above such as the loss in power and potential type I and II errors (Helm and Mark 2012; Irwin and

McClelland 2001; Klarmann 2008; Maxwell and Delaney 1993; Stone-Romero and Anderson 1994). In addition, the multi-group method does not allow for measuring the direct effect of the moderating variable on the dependent variable (Helm and Mark 2012) and hypotheses that include a non-linear effect cannot be assessed through the multi-group methods.

Finally, the interaction term can be modeled in a linear and/or non-linear way. The decision on whether to use a linear or non-linear interaction term depends on the conceptualization of the model and the underlying hypotheses. Where previous studies diverge in their findings, it is appropriate to model a non-linear interaction as the non-linear effect could explain this divergence. This is in line with recent studies pointing to the limitation of purely linear models and calling for an assessment of non-linear effects (Edwards and Berry 2010; Nikolaeva<sup>1</sup>, Bhatnagar, and Ghose 2015; Pierce and Aguinis 2013). Nikolaeva<sup>1</sup>, Bhatnagar, and Ghose (2015, p. 739), for instance, suggest that “a significant barrier for advancement in management research is the reliance of scholars on linear relationships” and Pierce and Aguinis (2013, p. 317) highlight that “a paradigmatic shift from linear to curvilinear models is needed to improve management theory and practice”.

To summarize, specifying the functional form of a hypothesized relationship instead of being “silent about a functional form, implying that the proposed relationship is simply some monotonic function” increases theoretical precision (Edward and Berry 2010, p. 675). Wherever a literature review reveals that conflicting or even paradoxical findings exist, researchers should hypothesize and test for non-linear effects, even if this might be more challenging as they are harder to detect and as they are likely to decrease statistical power (Aguinis 2004; Pierce and Aguinis 2013).

## 2.5 Discussion

This chapter discussed the concept of dual orientations in marketing and organizational research. It defined the concept as *the simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance*. The literature review showed that the concept of duality is an important topic in different research streams in both marketing and organizational research. Research streams range from analyzing the duality of revenue and efficiency orientations in marketing research to the research area of ambidexterity in organizational research which assesses the duality of the concepts of exploration and exploitation.

However, the section also showed that researchers have conceptualized duality in very different ways ranging from conceiving duality as two ends of a continuum to the interaction of two orthogonal orientations. Not surprisingly, the methodologies used by researchers as well as the measurement methods vary significantly since different conceptualizations lead to different methodologies. Overall, it can be stated that there is not one underlying understanding of duality which makes it challenging to compare results of studies. However, two key conclusions can be deduced from the methodology section.

First of all, it is not possible to treat the concept of duality as one theoretical and conceptual model. Accordingly, researchers have the important task of carefully reviewing existing studies in their research area and being very thoughtful about the underlying theory of their model, the conceptualization of the research and the concrete operationalization of the study and the rationale for the method they decide to use. Researchers should also consider the maturity of the research stream when choosing a methodology, for example in the case of divergent findings which might point to non-linear interaction effects of two orientations.



Second, the measurement framework has also shown that several methods can be used to assess certain concepts of duality, for example in the case of duality as moderation. When reviewing the methods in use, it became evident that some methods seem more robust than others. Researchers thus have to be careful when selecting among several methods and the most robust method with the least potential statistical deficits should be chosen.

Finally, this section defined the concept of duality as *the simultaneous pursuit of two strategic orientations in the aim of achieving continuous superior performance* (see section 2.1). The review has shown that not all methods in use take an additional effect from the interaction of the two strategic orientations on firm performance into account.

Given the general aim of companies to reach increased and continuous firm performance, it is necessary, in my view, to assess both the direct effects of the orientations and whether there is an additional interaction effect that affects firm performance positively or negatively. For the empirical study in the next section, I thus depart from the thought of modeling an additional interaction effect and to choose a methodology that models this effect. Based on the discussion of the different available methodologies to assess an interaction effect, I opt for using a regression analysis that takes both linear and non-linear interaction effects into account, given prior conflicting findings and the call in existing methodological research to increase theoretical precision in management research by shifting from the assessment of linear to curvilinear relationships (Edwards and Berry 2010; Nikolaeva1, Bhatnagar, and Ghose 2015).

In the next section, the empirical section of this dissertation, I focus on two prominent orientation poles in marketing research - a return-on-marketing orientation and a relationship marketing orientation as well as on the key question of the effects when these orientations interact.

### **3 The interaction of a return-on-marketing orientation and a relationship marketing orientation**

Beginning with early formulations of the marketing concept, two main orientation poles have always shaped this concept: An orientation towards customers and a profit orientation (Bell and Emory 1971; Bennett and Cooper 1981; Lehmann 1999; McNamara 1972). Over the last few decades, several research streams have given different names to these orientations, such as “customer satisfaction”, “quality orientation”, “value creation” on the one hand and “productivity orientation”, “cost reduction”, and “value appropriation” on the other (Anderson, Fornell, and Rust 1997; Marinova, Ye, and Singh 2008; Mizik and Jacobson 2003; Rust, Moorman, and Dickson 2002).

In this empirical study, I refer to the first perspective as a *relationship marketing orientation* which I define as *an enduring organizational focus on investing resources into being a value-creating partner to customers*. I denote the second perspective as a *return-on-marketing orientation* which I define as *an enduring organizational focus on critically reviewing the payback of marketing investments*.

Over the past few decades, several research streams have put different levels of importance on these two orientations. Throughout the 1990s and early 2000s, the relationship marketing perspective has strongly advocated that investing in customer relationships pays off. Several studies have shown that investing in customers and customer relationships positively affects firm performance (Cannon and Homburg 2001; Cannon and Perreault 1999; Kalwani and Narayandas 1995).

Later, increased priority has been given to the return-on-marketing perspective. This perspective has cautioned against overinvestments in customers and has re-emphasized the profitability orientation theme through productivity and a careful monitoring of the return

of marketing investments. Studies have shown that it is important not to overinvest in customers, to trim marketing activities and to prioritize customers (*e.g.*, Homburg, Droll, and Totzek 2008). Some authors have even gone further and call for the elimination of unprofitable products and customer relationships (Cao and Gruca 2005; Haenlein, Kaplan, and Schoder 2006; Zeithaml, Rust, and Lemon 2001).

In recent years, a few studies have taken an interest in the interaction of the two perspectives (Marinova, Ye, and Singh 2008; Matsuno and Mentzer 2000; Matsuno, Mentzer, and Özsoymer 2002; Noble, Sinha, and Kumar 2002; Rust, Moorman, and Dickson 2002). Findings regarding the interaction of the two perspectives, that is, whether the two perspectives are complementary and thus reinforcing each other or competing, are mixed.

This study is positioned within the interactionist perspective. I examine the interaction of a *relationship marketing orientation* and a *return-on-marketing orientation*. My research objective is to extend the research on dual orientations in several ways:

My overarching research objective is to clarify the nature of the interaction between a relationship marketing orientation and a return-on-marketing orientation, that is, whether the two orientations are competing or complementary, or even both. To extend and reconcile partially divergent findings in existing research, I assess both linear and *non-linear* interaction effects. Especially a non-linear effect would contribute to extend the existing theory in this area and explain the partially divergent and inconsistent findings. More specifically, I investigate whether a return-on-marketing orientation moderates the financial impact of a relationship marketing orientation in an inverse u-shaped way. In other words, is the effect of a relationship marketing orientation strongest for a medium level of a return-on-marketing orientation?

My second research objective which adds to existing literature is the analysis of the competitive context as an additional moderator. In a highly-competitive environment, firms are facing considerable bargaining powers from customers which impact the way they invest in customer relationships. At the same time, they are confronted with significant pressure to reduce costs. For these reasons, I investigate the moderating role of competitive intensity, that is, how it moderates the interaction effect of a relationship marketing orientation and a return-on-marketing orientation on firm performance.

The study is structured as follows: In the next section, I provide an overview of the literature focusing on the interaction of constructs along the themes of revenue increases versus efficiency increases. I then describe the model and the underlying hypotheses (section 3.3). As I strive for generalizable findings, the analysis is based on a cross-industrial survey which I present in the methodology section (section 3.4). That section also addresses the development of measures and their assessment. After reporting the results, I conclude with their implications for research and management.

### **3.1 Related literature on the interaction of strategic orientations**

As the study is positioned in the research stream of dual orientations, I discuss in this section studies in the marketing research area that have dealt with the simultaneous pursuit of different orientations, their interaction effects and the overall impact on firm performance (*e.g.*, Matsuno and Mentzer 2000; Matsuno, Mentzer, and Özsomer 2002; Noble, Sinha, and Kumar 2002; Rust, Moorman, and Dickson 2002).

The studies have focused on the juxtaposition of two potentially competing orientation types: an orientation type taking an *external, customer focused perspective* (for example, a customer satisfaction or revenue orientation) and an orientation type taking an *internal efficiency perspective* (for example, a productivity or cost reduction orientation). The

first orientation targets profit increases via revenue enhancements. These could be achieved by investments in customer relations and customer satisfaction. The second orientation emphasizes efficiency and an increased return on marketing activities. The following paragraphs give an overview of these studies, the constructs in use and main outcomes (see also Table 5).

Anderson, Fornell, and Rust (1997) assess the interplay between customer satisfaction and productivity and whether there are differences between goods and services. They find that both customer satisfaction and productivity have a positive effect on the profitability for both goods and services. In addition, the linear interaction effect between the two constructs is positive for goods, but not significant for services.

Mittal et al. (2005) assess the impact of customer satisfaction, efficiency and their interaction on firm performance in the short and in the long run. Overall, they find a significant positive interaction effect of customer satisfaction and efficiency in the long run. According to the authors, achieving a dual focus “yields higher benefits from revenue-enhancing activities” (Mittal et al. 2005, p. 552).

Marinova, Ye, and Singh (2008) assess the simultaneous pursuit of a quality orientation and a productivity orientation in the hospital sector. They use the mediator variable of frontline autonomy to analyze why and when the interaction of a productivity and quality orientation has a positive impact on revenue amongst other measures. According to their results, frontline autonomy mediates the positive impact of the interaction effect of a quality and productivity orientation on a business unit’s revenue. However, the interaction effect has a negative effect on the unit’s efficiency. In addition, frontline autonomy mediates the joint negative impact of a quality orientation and a productivity orientation on the efficiency of the unit.

**Table 5: Dual orientation research focused on revenue increases versus efficiency increases**

Author (Year), title	Orientations	Level of data	Sample size	Analysis of interaction	Competitive intensity	Main outcomes
Marinova, Ye, and Singh (2008) Do frontline mechanisms matter? Impact of quality and productivity orientations on unit revenue, efficiency, and customer satisfaction	Productivity orientation Quality orientation Autonomy (mediator)	Individual	n=423 employees in 30 BUs	Linear interaction effect	Not considered	Frontline autonomy mediates the positive impact of productivity and quality orientations on unit revenue and customer satisfaction and their negative impact on unit efficiency  (Direct negative effect of the interaction term on unit efficiency)
Mittal et al. (2005) (based on Rust, Moorman, and Dickson 2002) Dual emphasis and the long-term financial impact of customer satisfaction	Cost reductions (efficiency perspective) Customer satisfaction Improvements (revenue expansion perspective)	Organizational	n=77 firms, 399 observations from 1994-2000	Linear interaction effect	Not considered	Positive association of customer satisfaction and long-term financial performance. Relatively stronger for firms that successfully achieve a dual emphasis
Mizik and Jacobson (2003) Trading off between value creation and value appropriation: The financial implications of shifts in strategic emphasis	Value creation Value appropriation	Organizational	n=566 firms (COMPU-STAT data)	none Duality defined as relative emphasis on value appropriation relative to value creation	Not considered	Stock market reacts favorably if emphasis on value appropriation relative to value creation is increased

Author (Year), title	Orientations	Level of data	Sample size	Analysis of interaction	Competitive intensity	Main outcomes
Rust, Moorman, and Dickson (2002)  Getting return on quality: Revenue expansion, cost reduction, or both?	Revenue-emphasis  Cost-emphasis	Organizational	n=186 US firms	Linear interaction effect	Considered, but no significant effect	Firms adopting primarily a revenue expansion emphasis perform better than firms trying to emphasize cost reduction and better than firms trying to emphasize both revenue expansion and cost reduction
Anderson, Fornell, and Rust (1997)  Customer satisfaction, productivity, and profitability: Differences between goods and services	Customer satisfaction  Productivity (firm's total sales divided by the number of employees)	Individual	n=126 observations	Linear interaction effect	Not considered	While both customer satisfaction and productivity are positively associated with ROI for goods and services, the interaction between the two is positive for goods but significantly less so for services
My Study	Relationship marketing orientation  Return-on-marketing orientation	Organizational	n=328 observations	Linear interaction effect  Non-linear interaction effect	Considered - both as a covariate and a moderator of the non-linear interaction effect	A return-on-marketing orientation moderates the positive effect of a relationship marketing orientation on firm performance in a curvilinear, inverse u-shaped way

Rust, Moorman, and Dickson (2002) propose a conceptual model with the three core constructs of a revenue emphasis, a cost emphasis and a dual emphasis. Their overall results show that firms following a revenue emphasis outperform firms that either rely on a cost or dual emphasis. While a dual emphasis has no significant effects on the return-on-assets performance variable, it has a negative impact on one-year-ahead, size-adjusted stock returns.

Finally, Mizik and Jacobson (2003) assess the trade-off between value creation and value appropriation. The authors use R&D expenditures as a proxy for value creation and advertising expenditures as a proxy for value appropriation. They find that the stock market reacts favorably if the emphasis on value appropriation relative to value creation is increased.

Overall, two aspects are notable from the literature review and the current state of research. First, from a methodological point of view, my observation is that the interaction is assessed in a purely linear way. To the best of my knowledge, no study has assessed the relationship between the two orientations using a non-linear approach. However, results of the studies related to the issue of whether orientations are competing or complementary are mixed: While the studies by Anderson, Fornell, and Rust (1997) and by Mittal et al. (2005) conclude that the duality, i.e. the interaction of the two orientations positively affects firm performance, the empirical analysis by Marinova, Ye and Singh (2008) shows mixed results depending on the outcome variable. Rust, Moorman, and Dickson (2002) as well as Mizik and Jacobson (2003) find that a dual pursuit of the two orientations has a negative impact on firm performance.

Arguments for the positive effects of a dual orientation refer to the foundations of management that profits are maximized through revenue enhancement on the one hand and a decrease of costs of the other (Mittal et al. 2005), and that their interaction positively impacts



firm performance. A firm that, for example, “achieves superior levels of customer satisfaction needs to devote fewer resources to handling returns, rework, warranties, and complaint management, thus lowering costs and improving productivity” (Anderson, Fornell, and Rust 1997, p. 131).

Arguments that are put forward to underline that the two orientations are competing point to limited financial resources within a firm requiring a trade-off between the orientations and a need for prioritization (Mizik and Jacobson 2003). In addition, researchers point to the different organizational philosophies that both orientations stem from (Mittal et al. 2005; Rust, Moorman, and Dickson 2002). According to Rust, Moorman and Dickson (2002, p. 10) one orientation “will tend to dominate the culture and systems in organizations because of the natural tensions that exist between these two management approaches” which is also due to the fact that no organizational structures are in place within firms to integrate both orientations in practice according to the authors.

These opposing arguments and the different outcomes of the discussed studies call for assessing a non-linear interaction. The existence of such a non-linear effect would allow for explaining the different findings and would provide an important way to integrate the arguments of the divergent views (see section 3.3).

The second notable finding from the literature review is that the context variable of competitive intensity and how this variable directly affects the interaction effect is neglected. The level of competitive intensity has an important influence on both orientation poles and their interaction. In highly-competitive environments, firms are facing high pressure from both customers and competitors which influences their behavior and ability to invest in marketing relationships. In parallel, they are confronted with high pressure on margins and costs affecting their focus on a return orientation. While some of the previous studies in

orientation research have sometimes used competitive intensity as a key control variable, its direct impact on the interaction effect has, to the best of my knowledge, not been analyzed so far.

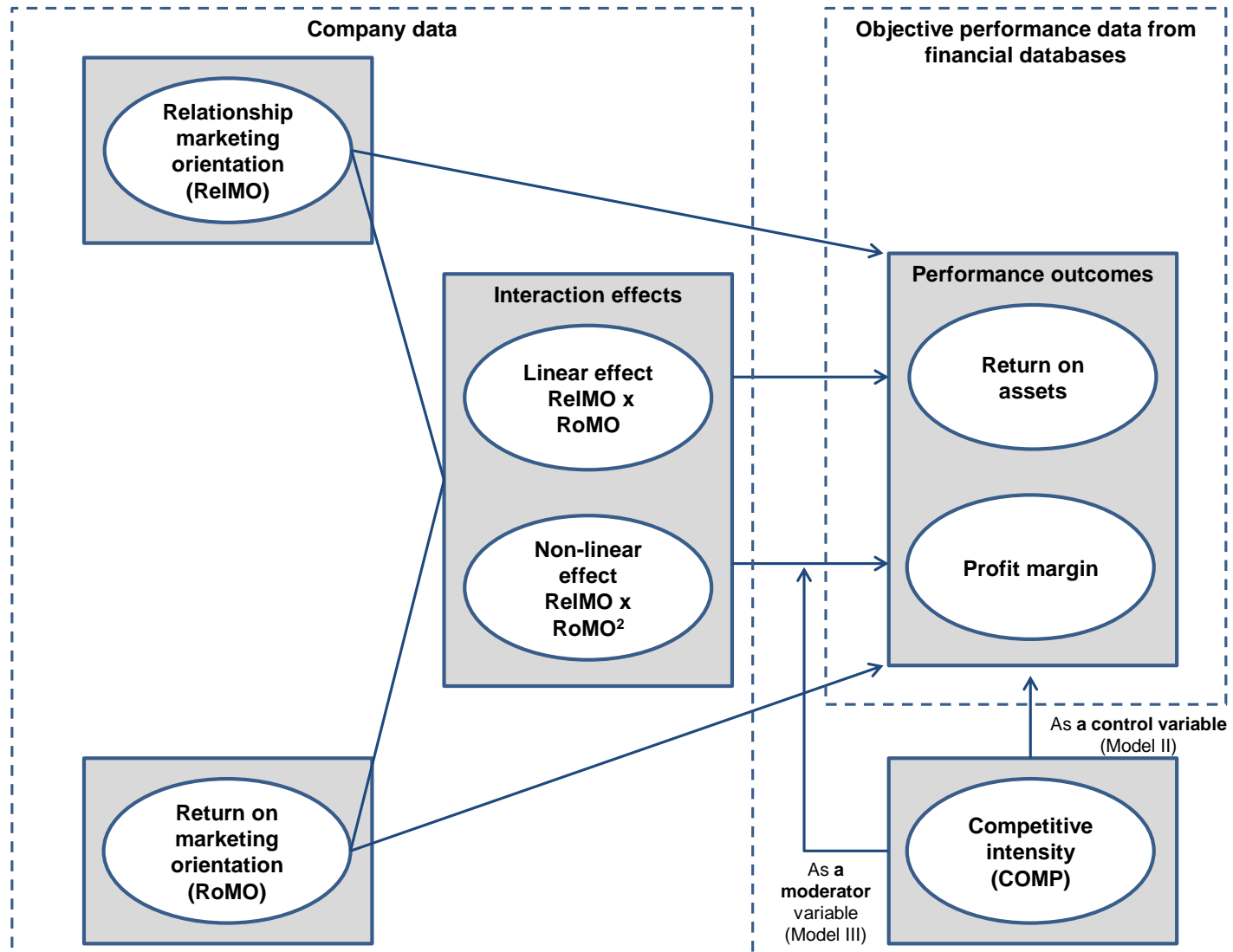
To summarize the literature review, this study adds to the literature by (i) taking a comprehensive approach to the interaction effect of two orientations including a non-linear interaction effect and by (ii) assessing how competitive intensity affects the interaction effect. As I strive for generalizable results, I am conducting a cross-industrial empirical study.

### **3.2 Framework and constructs**

In line with the overarching research objective, the core of my framework is the interaction between a *relationship marketing orientation* and a *return-on-marketing orientation* (see Figure 7). Overall, I consider the following effects on firm performance: First of all, I consider the direct effects of a relationship marketing orientation as well as a return-on-marketing orientation on firm performance. In addition, I analyze the linear and non-linear interaction effects of these two orientations. Furthermore, I incorporate the construct of competitive intensity which has a dual purpose: In one model (Model II), it will be used to assess how it moderates the relationships between the orientations and firm performance. In an additional model (Model III), competitive intensity will act as a *moderator* of the curvilinear effect of a return-on-marketing orientation.

The relationship marketing orientation, i.e. the organizational focus on investing resources into being a value-creating partner to customers, builds on three key issues that have proved to positively influence firm performance: (i) Investing significant amounts of money in customer relationships, (ii) investing in strategic partnerships with customers and (iii) an orientation towards sustainable customer value (*e.g.*, Kalwani and Narayandas 1995; Palmatier 2008; Verhoef, Franses, and Hoekstra 2002).

Figure 7: Research framework



The construct of the return-on-marketing orientation, which I defined as an enduring organizational focus on critically reviewing the payback of marketing investments, focuses on behaviors in organizations that strive to maximize the efficiency in marketing and sales actions. It is composed of behaviors that entail (i) the willingness to abandon unprofitable customer relationships (Zeithaml, Rust, and Lemon 2001), (ii) the willingness to not do everything for customers, i.e. withdrawing resources from products that do not pay off (Quelch and Kenny 1994) and (iii) the willingness to strive towards an efficient product portfolio.

The two performance constructs I use follow prior research that dealt with the impact of marketing activities on firm profitability (*e.g.*, Homburg, Droll, and Totzek 2008; Reinartz, Krafft, and Hoyer 2004; Rust, Moorman, and Dickson 2002). I simultaneously consider two profitability constructs: Return on assets and profit margin. I define return on assets as a firm's total operating income before tax in relation to total assets. Based on Ittner and Larcker (1998), I define the profit margin as a firm's total operating income before tax in relation to sales.

### **3.3 Hypotheses**

#### **3.3.1 Relationship marketing orientation**

Many studies on investment in customers, in customer value and in building strong value-creating customer relationships have shown that these investments positively affect firm performance (*e.g.*, Berry 1995; Kalwani and Narayandas 1995; Palmatier 2008, Vandermerwe 2004). Research has shown that these positive effects of investments in relationships occur both through increased revenues and reduced costs (see Table A-1 in the Annex).

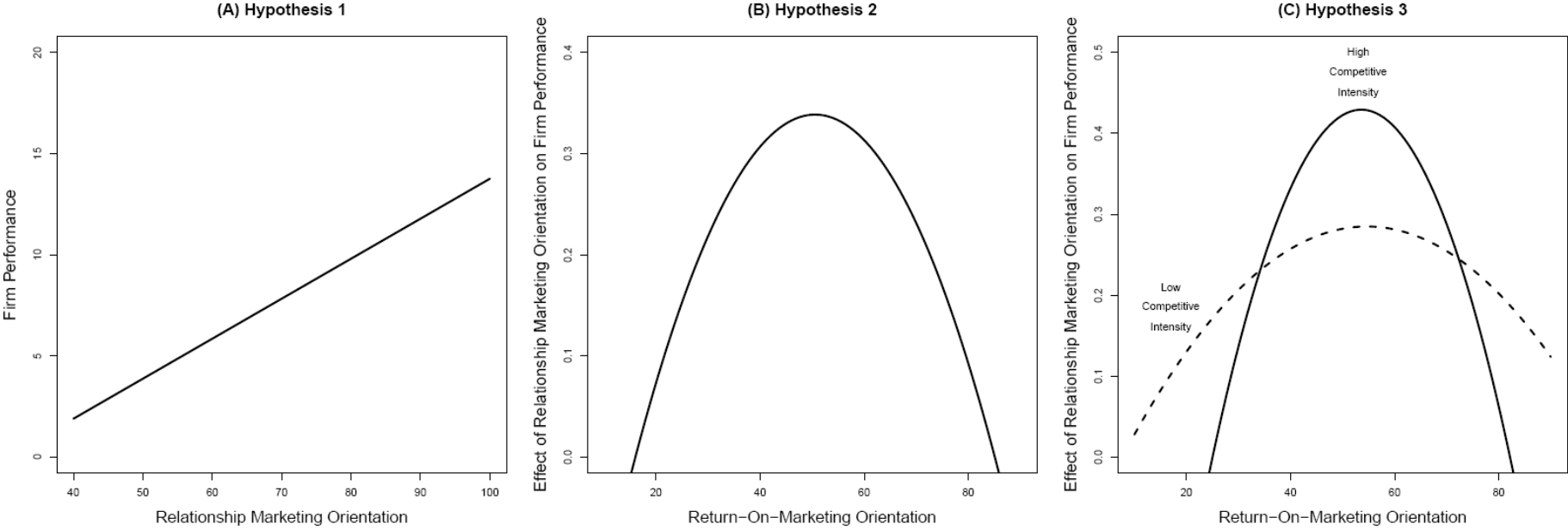
On the revenue side, strong ties and strategic partnerships with customers generate higher revenues and positively impact overall performance for several reasons: First, several studies show that investing in customer relationships increases customer loyalty (De Wulf, Odekerken-Schroeder, and Iacobucci 2001). The authors argue that customers feel obliged to give their loyalty in return for the firm's investment in the customer relationship (Bagozzi, 1995). Second, customers involved in value-creating relationships are more willing to provide the selling firm with proprietary information which in turn positively impacts a firm's outcome (Palmatier 2008). Third, sustainable and strategic relationships allow firms to better understand customer needs and to thus provide higher customer value which can lead to increased sales (Kalwani and Narayandas 1995; O'Neal and Bertrand 1991). Finally, strong relationships enhance customers' willingness to test new products and increase their willingness to adapt to product changes of the selling firm (Palmatier 2008).

Although it might seem like a paradox at first glance, investments in customers can also have positive effects on cost reduction. Strong and strategic relationships with customers allow firms to maintain these relationships with a "minimum of hassle or waste of time and efforts" (Palmatier 2008, p. 77) and to keep overall costs at a low level (Reichheld and Sasser 1990). Furthermore, customer retention is, in general, cheaper than customer acquisition (Blattberg and Deighton 1996; Fites 1996). Taken the positive effects of the revenue and cost side together, I hypothesize the following (see Figure 8A for a graphical representation):

H<sub>1a</sub>: A relationship marketing orientation has a positive effect on a firm's return on assets.

H<sub>1b</sub>: A relationship marketing orientation has a positive effect on a firm's profit margin.

Figure 8: Graphical representation of the hypotheses



### 3.3.2 Return-on-marketing orientation

In the following, I consider how a return-on-marketing orientation impacts the link between a relationship marketing orientation and overall firm performance, i.e. the non-linear interaction effect. I argue that, departing from a low level, a return-on-marketing orientation (RoMO) will have a positive effect on the link between a relationship marketing orientation (RelMO) and overall firm performance. However, if a return orientation is exaggerated, I hypothesize that it will negatively impact this relationship. Figure 8B provides a graphical representation of this effect.

Relationship marketing investments involve spending money. As firms dispose of limited financial and personal resources which have to be distributed among different investments in marketing relationships, not everything should be done for every customer ignoring his or her profitability. Existing literature has shown that customers can be clustered into more and less profitable customer segments and that it pays-off to prioritize customers (see Table A-2 in the Annex). Not prioritizing customers in relationship marketing investment decisions can lead to an overspending as well as to a misallocation of resources (*e.g.*, Homburg, Droll, and Totzek 2008; Mittal et al. 2005).

Instead, firms that continuously monitor relationship marketing investments in customers and that are, as a consequence, willing to consistently discontinue relationships with some customers who proved to be unprofitable should perform better than other firms. If the attention is focused on relationships with valuable customers, more resources can be invested in promising customers and projects (Mittal, Sarkees, and Murshed 2008; Zeithaml, Rust, and Lemon 2001).

However, if the return orientation investments on customer relationships is exaggerated, I hypothesize that the positive effect of this orientation on the RelMO – firm

performance link (left side of the curve) will reverse and become negative (right side of the curve).

For example, as a consequence of an exaggerated level of divesting customers, promising customers that are unprofitable at the beginning of the customer relationship but are valuable in the longer run will be dropped. In addition, if the return orientation on customer relationships is overdone, not only relationships with obviously unprofitable customers will be discontinued, but also customer relationships with low but still positive marginal contributions. However, these contributions would still positively affect overall firm performance. As a result, the allocation of resources in relationship marketing activities becomes inefficient as the attribution of low investments in customers with a low profitability would still enhance overall firm performance. Finally, an exaggerated return orientation would lead to an elimination of relationship investments in reference customers that do not have a positive direct impact on firm performance but that could generate significant indirect paybacks.

A similar reasoning regarding the inverse u-shaped effect applies to the management of the product portfolio and projects. Regarding the left side of the curve, the positive effect of a return orientation on the RelMO - firm performance link, I argue that, in general, it is not reasonable for firms to have a large product portfolio which contains unprofitable products aiming at satisfying every need of the firm's customers in order to improve the relationships with customers (Quelch and Kenny 1994). Instead, I argue that the willingness to continuously monitor the return of the product portfolio and to withdraw unprofitable products frees resources which can be invested in additional targeted projects which, in turn, will increase overall firm performance.



If exaggerated though, I hypothesize that an unrestricted willingness to maximize the return of investments in the product and project portfolio will have negative consequences. Eliminating too many products can lead to a “too lean” product portfolio. As a consequence, products might be divested that had an important role in product bundles. This may counteract effective relationship marketing. In addition, investments in products and projects to ensure high quality marketing relationships that are not profitable in the short run but very promising in the longer run will not be undertaken.

Overall, an exaggerated level of a return-on-marketing orientation might also increase the probability of erroneous divestment decisions as the error probability increases. Furthermore, if more and more resources are freed, firms will be confronted with situations where no more relationship marketing activities with high returns will be available to invest in. The marginal return of the freed capital falls with an increasing level of a return-on-marketing orientation.

In summary, I argue that a sole focus on a relationship marketing orientation does not maximize a firm’s financial outcome. Firms should, in parallel, focus on monitoring the return of marketing relationship investments. Firms with a dual focus should thus have a strategic and competitive advantage (Mittal et al. 2005; Rust, Moorman, and Dickson 2002).

However, I argue that this interaction effect is not linear. I hypothesize that there is an optimal, medium level of a return-on-marketing orientation that maximizes the positive effect of a relationship marketing orientation on a firm’s performance. Departing from an optimal point of a return-on-marketing orientation, a lower level but also a higher level of a return-on-marketing orientation negatively moderate the effect of a relation marketing orientation on a firm’s return on assets and a firm’s profit margin. The hypotheses can thus be formulated as follows:

H<sub>2a</sub>: There is a curvilinear (inverse u-shaped) moderator effect of a return-on-marketing orientation on the effect of a relationship marketing orientation on a firm's return on assets.

H<sub>2b</sub>: There is a curvilinear (inverse u-shaped) moderator effect of a return-on-marketing orientation on the effect of a relationship marketing orientation on a firm's profit margin.

### **3.3.3 The moderating effect of a competitive environment**

Further, I consider the effect of a competitive environment on the curvilinear effect of a return-on-marketing orientation described in H<sub>2</sub>. I chose the moderator variable of competitive intensity for two reasons: First, I consider that competitive intensity has an important impact on how companies invest in relationship marketing and on how they adapt a return-on-marketing orientation.

Second, I chose this variable because it is the most frequently analyzed moderator in market orientation research and its impact on firm performance (Kirca, Jayachandran, and Bearden 2005).

Overall, I argue that in highly-competitive environments, customers have a high level of bargaining power. They are able to force firms to provide additional services which in turn significantly increase costs and lower overall returns.

In a highly-competitive environment, firms cannot afford to invest in customer relationships in an unfocused way and especially cannot do everything for their customers (*e.g.* by keeping unprofitable products in their portfolio). I argue that in this situation it is crucial for firms to come close to the optimal return-on-marketing level as overspending and

an inefficient allocation of resources would have severe negative consequences for overall firm performance. In graphical terms, the inverse u-shaped parabola gets squeezed compared to the situation of an average competitive intensity (see Figure 8C).

In situations with low competitive intensity, however, a return-on-marketing orientation has a far lower importance for the overall firm performance. In the extreme case of a monopoly, for example, the firm is in the position to set prices and thus to fully absorb potentially high investments in customer relationships. Compared to the graphical representation of the inverse u-shaped parabola without the group distinction, the new parabola for low competitive intensity gets flatter.

To summarize, I hypothesize the following:

H<sub>3a</sub>: Competitive intensity moderates the curvilinear effect of a return-on-marketing orientation on the relationship marketing orientation – return on asset link.

Deviating from the optimal level of a return-on-marketing orientation has a more severe impact on the effect of a relationship marketing orientation on a firm's return on assets in highly-competitive environments than in less competitive environments.

H<sub>3b</sub>: Competitive intensity moderates the curvilinear effect of a return-on-marketing orientation on the relationship marketing orientation – profit margin link.

Deviating from the optimal level of a return-on-marketing orientation has a more severe impact on the effect of a relationship marketing orientation on a firm's profit margin in highly-competitive environments than in less competitive environments.

### **3.4 Methodology**

#### **3.4.1 Sample and data collection**

To test my hypotheses, I relied on a survey methodology for data collection. I prepared a questionnaire that contained general questions on the firm, the respondents, the developed construct measures and questions on performance measures of the relevant business unit or the entire firm if the firm did not have multiple units. The questionnaire was pretested with industry experts.

In the aim of obtaining generalizable results, I did not limit the survey to specific industries and sent the questionnaire to B2B and B2C firms. The unit of analysis was a business unit of a firm or, if a firm was not composed of several business units, the entire firm.

I concentrated the survey on Germany and Switzerland to ensure a homogenous sample with respect to language and cultural conceptions to avoid biases that could arise due to different ways of interpreting the questions in the questionnaires.

That said, although all questionnaires were sent to German-speaking countries, I had a few respondents who did not speak German on a professional basis and to whom I had to send an English version of the questionnaire. To ensure conceptually equivalent versions in German and English, I used the method of forward-translation and back-translation: One professional translator translated the German version of the questionnaire into English. In a second step, a different translator that had no knowledge of the questionnaire translated the English version back into German. Discrepancies that arose from this back-translation were discussed and corrected in an iterative process of forward- and back-translation until a satisfactory translation was achieved.

As the constructs cover both tasks that are performed by sales and marketing but also accounting departments, I undertook a two data sources strategy and contacted senior managers in marketing and sales departments, but also in accounting departments to obtain both perspectives. Overall, I ensured that key informants were chosen on the basis of their primary responsibility for these activities and their knowledge and seniority. I identified potential respondents from databases of a commercial data provider and a university owned database.

When there were multiple responses by one department within the business unit, I used the responses of the most senior respondent. In total, 2577 managers in marketing, sales and accounting departments were contacted per mail and email relying on the database of the commercial data provider and 577 relying on the university owned database. They were invited to complete the questionnaire. As incentives, I offered a free participation in a management seminar as well as a benchmarking report that showed the results of the study and how the respective firm of the manager compares to these results. I issued second and third reminder in a four weeks interval. Respondents were assured of the confidentiality of their answers including their identities and firm identities.

In total, I received 328 usable questionnaires which represented an average response rate of the two samples of 19.2%. Respondents were senior marketing, sales and accounting executives in marketing and sales functions with an average work experience of 16 years. Table 6 gives an overview of industry composition.

**Table 6: Sample composition**

Industry	Percentage
Machinery and plant engineering	12.8
Consumer goods	12.8
Capital intensive services	9.8
Automotive suppliers	9.5
Human intensive services	9.5
Electronics	8.8
Financial services	7.9
Construction	6.7
Chemicals	6.7
Metal industry	6.4
Retail	5.2
Healthcare	4.0

In addition to managers' responses on their firm performance measures, I collected a set of independent performance data. I relied on Bureau van Dijk's Amadeus database to collect firm's financial performance measures. To validate manager's responses, I correlated revenue measures indicated by managers with revenue measures from the independent financial data sets for two years. I excluded outliers when it was clear that performance data indicated by managers referred to other businesses or business units than the data published in the financial database. To perform this task, I checked for each entry of the database whether the legal entities of the firms, addresses and product portfolio descriptions corresponded to those indicated in the questionnaires. In total, I excluded 27 questionnaires. After this exclusion, the shared variance ( $R^2$ ) between objective and subjective performance criteria amounted to .9944 and .9974 for the two years. This shows that managers' responses

are highly accurate and valid in terms of reported performance data. For the analyses described in the following sections, I relied on the performance measures of the *independent financial database*.

### **3.4.2 Measure development and assessment**

I developed new scales for the organizational orientations of a relationship marketing orientation and a return-on-marketing orientation. On the basis of Churchill's framework (1979), I developed a set of items for each construct that reflect the two orientations. I relied both on literature on organizational orientations and on semi-structured, in-depth interviews with senior experts from industry to develop the items for the scales. I chose to conduct these interviews with experts from both marketing and accounting departments to obtain two organizational perspectives for the constructs. Subsequently, I pre-tested the items with eleven industry experts for relevance, clarity and comprehension and refined the scales based on their feedback. To assess competitive intensity, I used a scale consisting of three items based on previous research by Jaworski and Kohli (1993). Table 7 provides the list of items. All constructs were measured using reflective scales.

I used confirmative factor analysis to test the reliability and validity of the construct measures. I ran a CFA model that contained all constructs of my model. To adjust for potential multivariate non-normality of the data, I relied on the Yuan and Bentler procedure to correct the maximum likelihood chi-square value and to obtain robust standard errors (Yuan and Bentler, 2000).

**Table 7: Scale items for construct measures**

<b>Scale items for the construct of a return-on marketing-orientation</b>	
<b>Item number</b>	<b>Item text</b>
Item 1	In our business unit, we eliminate unprofitable products from our product portfolio
Item 2	In our business unit, we deliberately limit our range of products and services to avoid complexity costs
Item 3	In our business unit, we regularly review discounts so that our terms and conditions are clearly linked to the customer's behavior (give and take)
Item 4	In our business unit, we discontinue relationships with customers if they are not profitable
Item 5	In our business unit, we are generally consistent in optimizing the input-output ratio of our marketing and sales activities
<b>Scale items for the construct of a relationship marketing orientation</b>	
<b>Item number</b>	<b>Item text</b>
Item 1	In our business unit, we invest a lot of money in customer relationship management
Item 2	In our business unit, we want to be our customers' strategic partner
Item 3	In our business unit, on the whole, we are geared to long-term customer value
<b>Scale items for the construct of competitive intensity</b>	
<b>Item number</b>	<b>Item text</b>
Item 1	We have to fight hard for market shares in our market
Item 2	There is tough price competition in our sector
Item 3	The products and services in our market can easily be imitated by competitors

The model fit indexes met commonly accepted standards (Hu and Bentler 1999):  $\chi^2 = 106.607$ ; comparative fit index [CFI] = .926; root mean square error of approximation [RMSEA] = .070; standardized root mean square residual [SRMR] = .050. Table 8 provides the respective psychometric properties of the items. The composite reliabilities of .821



(construct return-on-marketing orientation), .745 (construct relationship marketing orientation) and .705 (construct competitive intensity) exceed the commonly accepted threshold of 0.6 (Bagozzi and Yi 1988). In addition, all factor loadings were highly significant indicating convergent validity (Bagozzi, Yi, and Philipps 1991).

**Table 8: Psychometric properties of scale items**

Construct	Items	Individual item loading	p value	Average variance extracted	Composite reliability
Return-on-marketing orientation	In our business unit, we eliminate unprofitable products from our product portfolio	.69	.00	.50	.82
	In our business unit, we deliberately limit our range of products and services to avoid complexity costs	.62	.00		
	In our business unit, we regularly review discounts so that our terms and conditions are clearly linked to the customer's behavior (give and take)	.67	.00		
	In our business unit, we discontinue relationships with customers if they are not profitable	.66	.00		
	In our business unit, we are generally consistent in optimizing the input-output ratio of our marketing and sales activities	.84	.00		
Relationship marketing orientation	In our business unit, we invest a lot of money in customer relationship management	.69	.00	.50	.75
	In our business unit, we want to be our customers' strategic partner	.79	.00		
	In our business unit, on the whole, we are geared to long-term customer value	.63	.00		
Competitive intensity	We have to fight hard for market share in our market	.74	.00	.50	.71
	There is tough price competition in our sector	.80	.00		
	The products and services in our market can easily be imitated by competitors	.51	.00		

### 3.5 Results

I proceeded with the hypotheses testing in three steps. First, I estimated the direct effects as well as the linear and non-linear interaction effects of a relationship marketing orientation and a return-on-marketing orientation on firm performance (Model I). I ran a simultaneous multivariate regression analysis on the two outcome variables return on assets and profit margin. Second, I enlarged Model I by competitive intensity which I treated as a covariate in this model (Model II). This allowed me to control for competitive intensity and to assess whether competitive intensity had a direct effect on the performance outcome variables. Third, I estimated a multi-group model to determine whether the moderator effect of a return-on-marketing orientation on the relationship marketing orientation-performance link varied as a function of competitive intensity (Model III).

To carry out the regression analyses of all models, I averaged the item scores of the constructs across the respective indicators. I mean-centered the independent variables to reduce multicollinearity, as suggested by Aiken and West (1991). I again used Yuan and Bentler's (2000) procedure to obtain robust standard errors.

#### 3.5.1 Model I

For the first model, I estimated the effects of a relationship marketing orientation and return-on-marketing orientation and their linear and nonlinear interaction effects on performance outcomes. I simultaneously ran two regressions, one on the dependent variable of return on assets (ROA) and one on the dependent variable profit margin (Prof\_Marg). The following nonlinear moderated regression equations were estimated:

$$\begin{aligned} \text{ROA} &= \beta_0 + \beta_1 \text{RelMO} + \beta_2 \text{RoMO} + \beta_3 \text{RelMO} \times \text{RoMO} + \beta_4 \text{RelMO} \times (\text{RoMO})^2 + \varepsilon \\ &= \beta_0 + \beta_2 \text{RoMO} + \text{RelMO}(\beta_1 + \beta_3 \text{RoMO} + \beta_4 (\text{RoMO})^2) + \varepsilon \end{aligned} \quad (\text{I})$$

$$\begin{aligned} \text{Prof\_Marg} &= \beta_0 + \beta_1 \text{RelMO} + \beta_2 \text{RoMO} + \beta_3 \text{RelMO} \times \text{RoMO} + \beta_4 \text{RelMO} \times (\text{RoMO})^2 + \varepsilon \\ &= \beta_0 + \beta_2 \text{RoMO} + \text{RelMO}(\beta_1 + \beta_3 \text{RoMO} + \beta_4 (\text{RoMO})^2) + \varepsilon \end{aligned} \quad (\text{II})$$

where RelMO represents a relationship marketing orientation and RoMO represents a return-on-marketing orientation. I report the results of this analysis in Table 9. H<sub>1</sub> predicts a positive effect of a relationship marketing orientation on the performance outcomes, profit margin and return on assets. My results show that the effect is significant and positive for both performance outcome variables (ROA:  $\beta_1 = .38, p < .01$ ; Prof\_Marg:  $\beta_1 = .42, p < .01$ ; standardized solution). Thus, H<sub>1a</sub> and H<sub>1b</sub> are supported in Model I.

Regarding the construct of a return-on-marketing orientation, I predict that this orientation moderates the relationship marketing orientation – performance link in an inverse u-shaped way (H<sub>2</sub>). This means that departing from a low level, a return-on-marketing orientation has a positive effect on the relationship marketing orientation – performance link. However, if exaggerated, a return orientation has a negative effect. H<sub>2</sub> is supported if the  $\beta_4$  coefficients of the linear RelMO and non-linear RoMO product term (RelMO  $\times$  (RoMO)<sup>2</sup>) are significant and negative. For both performance outcomes, the results show that the effects are negative and significant (standardized results: ROA equation:  $\beta_4 = -.29, p < .05$ ; Prof\_Marg equation:  $\beta_4 = -.30, p < .05$ ). H<sub>2a</sub> and H<sub>2b</sub> are thus supported in Model I.

**Table 9: Results of the hypothesis tests for Model I and Model II**

<b>Model I: Main model</b>						
	<b>Standardized values</b>			<b>Unstandardized values</b>		
	$\beta$	SE	$p$	$\beta$	SE	$p$
<b>ROA:</b>						
Simple effects						
RelMO ( $\beta_1$ )	.38	.12	.00	.34	.12	.00
RoMO ( $\beta_2$ )	-.10	.09	.28	-.07	.07	.28
Interaction effects						
RelMO x RoMO ( $\beta_3$ )	-.02	.11	.85	-.00	.00	.85
RelMOx (RoMO) <sup>2</sup> ( $\beta_4$ )	-.29	.14	.04	-.00	.00	.04
<b>Profit margin:</b>						
Simple effects						
RelMO ( $\beta_1$ )	.42	.13	.00	.26	.09	.00
RoMO ( $\beta_2$ )	-.15	.09	.11	-.08	.05	.11
Interaction effects						
RelMO x RoMO ( $\beta_3$ )	-.04	.11	.74	-.00	.00	.74
RelMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.30	.14	.03	-.00	.00	.04
<b>Model II: Main model controlled for competitive intensity</b>						
<b>ROA:</b>						
Simple effects						
RelMO ( $\beta_1$ )	.40	.13	.00	.35	.10	.00
RoMO ( $\beta_2$ )	-.11	.07	.12	-.08	.06	.16
COMP ( $\beta_5$ )	.08	.09	.39	.06	.07	.40
Interaction effects						
RelMO x RoMO ( $\beta_3$ )	-.01	.09	.88	-.00	.00	.88
RelMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.31	.12	.01	-.00	.00	.00
<b>Profit margin:</b>						
Simple effects						
RelMO ( $\beta_1$ )	.43	.11	.00	.26	.07	.00
RoMO ( $\beta_2$ )	-.15	.06	.01	-.08	.05	.08
COMP ( $\beta_5$ )	.00	.07	.97	.00	.04	.97
Interaction effects						
RelMO x RoMO ( $\beta_3$ )	-.04	.07	.57	-.00	.00	.59
RelMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.30	.12	.01	-.00	.00	.00

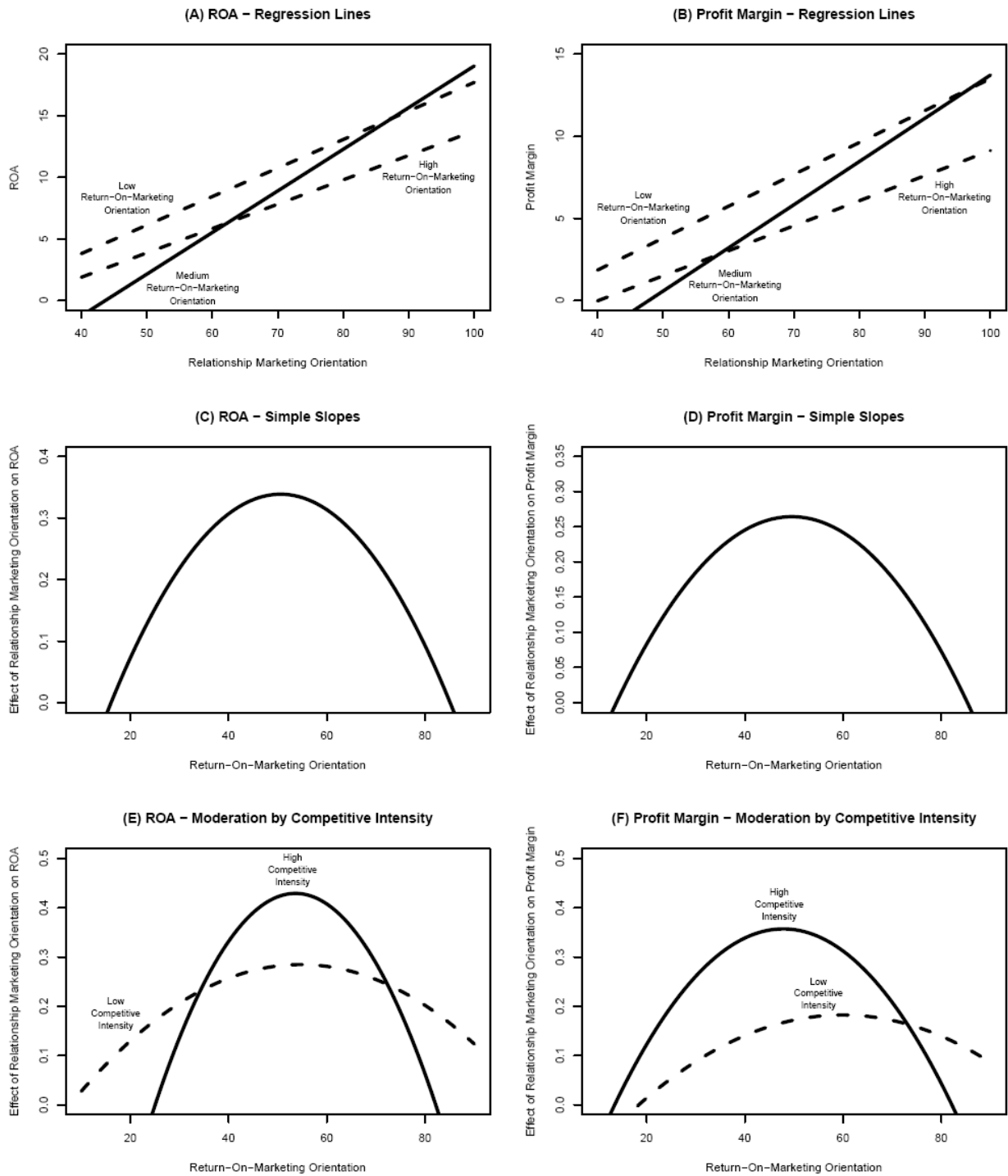
The upper part of Figure 9 shows the graphical representation of the non-linear interaction effect. The Figures 9A and 9B plot the relationship between a relationship marketing orientation on firm performance for different levels of a return-on-marketing orientation. At a medium return-on-marketing orientation level, the impact of the relationship marketing orientation on firm performance is highest (steepest slope). The Figures 9C and 9D are another graphical representation of this finding. They plot the impact of a return-on-investment orientation on the relationship marketing orientation – performance link. An optimal level of a return orientation maximizes the effect of a relationship marketing orientation on firm performance. Accordingly, departing from a low or too high level of a return-on-marketing orientation, the impact of a relationship marketing orientation on firm performance can be enhanced.

### 3.5.2 Model II

In a second step, I enlarged Model I by the variable competitive intensity which I treated as a control variable in this model. By estimating Model II, I aimed at analyzing whether the effects described for Model I were still significant and whether competitive intensity had a direct effect on the performance outcome variables. Again, I ran simultaneous regression analyses to estimate the following equations, where COMP represents competitive intensity:

$$\begin{aligned}
 \text{ROA} &= \beta_0 + \beta_1 \text{RelMO} + \beta_2 \text{RoMO} + \beta_3 \text{RelMO} \times \text{RoMO} + \beta_4 \text{RelMO} \times (\text{RoMO})^2 + \\
 &\quad \beta_5 \text{COMP} + \varepsilon \\
 &= \beta_0 + \beta_2 \text{RoMO} + \text{RelMO}(\beta_1 + \beta_3 \text{RoMO} + \beta_4 (\text{RoMO})^2) + \beta_5 \text{COMP} + \varepsilon \quad \text{(III)}
 \end{aligned}$$

**Figure 9: Graphical representation of the interaction effects**



$$\begin{aligned} \text{Prof\_Marg} &= \beta_0 + \beta_1\text{RelMO} + \beta_2\text{RoMO} + \beta_3\text{RelMO} \times \text{RoMO} + \beta_4\text{RelMO} \times (\text{RoMO})^2 + \\ &\quad \beta_5\text{COMP} + \varepsilon \\ &= \beta_0 + \beta_2\text{RoMO} + \text{RelMO}(\beta_1 + \beta_3\text{RoMO} + \beta_4(\text{RoMO})^2) + \beta_5\text{COMP} + \varepsilon \quad (\text{IV}) \end{aligned}$$

The results are reported in the lower part of Table 9. Hypothesis 1a and 1b are supported in Model II since the effects of a relationship marketing orientation on the outcome variables are still significant and positive (values for ROA and Prof\_Marg: ROA:  $\beta_1 = .40$ ,  $p < .01$ ; Prof\_Marg:  $\beta_1 = .43$ ,  $p < .01$ ; standardized solution). It is worthwhile pointing out that the covariate competitive intensity does not have a direct, significant effect on the performance outcome variables.

Hypotheses 2a and 2b predict the curvilinear moderator effect of the return-on-marketing construct. As for Model I, these hypotheses are supported with an increased level of significance for both regressions on return on assets and profit margin ( $\beta_4 = -.31$ ,  $p = .01$ ;  $\beta_4 = -.30$ ,  $p = .01$ , respectively).

Overall, the results of Model II shed light on the role of the variable of competitive intensity: Competitive intensity does not have a direct effect, but nevertheless it has a role to play in increasing the level of significance for the non-linear interaction term. This result leads me to Model III which deals with the moderating role of competitive intensity on the curvilinear interaction effect.

### 3.5.3 Model III

In Model III, I estimated a multi-group model to assess whether the curvilinear effect of a return-on-marketing orientation on the relationship marketing orientation – performance link varied according to the level of competitive intensity. I divided the sample into two groups, one group of companies acting in an environment of low competitive intensity and the other

group acting in a highly-competitive environment. I divided the groups based upon a median-split of the sample and ran a multi-group analysis to estimate the following equations, where  $g$  is the index for group membership:

$$\begin{aligned} \text{ROA} &= \beta_{0g} + \beta_{1g}\text{RelMO} + \beta_{2g}\text{RoMO} + \beta_{3g}\text{RelMO} \times \text{RoMO} + \beta_{4g}\text{RelMO} \times (\text{RoMO})^2 + \varepsilon \\ &= \beta_{0g} + \beta_{2g}\text{RoMO} + \text{RelMO}(\beta_{1g} + \beta_{3g}\text{RoMO} + \beta_{4g}(\text{RoMO})^2) + \varepsilon \end{aligned} \quad (\text{V})$$

$$\begin{aligned} \text{Prof\_Marg} &= \beta_{0g} + \beta_{1g}\text{RelMO} + \beta_{2g}\text{RoMO} + \beta_{3g}\text{RelMO} \times \text{RoMO} + \beta_{4g}\text{RelMO} \times (\text{RoMO})^2 + \varepsilon \\ &= \beta_{0g} + \beta_{2g}\text{RoMO} + \text{RelMO}(\beta_{1g} + \beta_{3g}\text{RoMO} + \beta_{4g}(\text{RoMO})^2) + \varepsilon \end{aligned} \quad (\text{VI})$$

I hypothesize that a return-on-marketing orientation is especially important in highly-competitive markets. A deviation from an optimal level of a return orientation should thus have severe consequences. Respectively, deviating from the optimal level in an environment where competitive intensity is low should have a less severe impact. The results for this hypothesis (hypothesis 3) are reported in Table 10.

If competitive intensity moderates the effect of a return orientation on the relationship marketing orientation – performance link, the results for the nonlinear interaction effect  $\beta_{4g}\text{RelMO} \times (\text{RoMO})^2$  must differ between the two groups.

For the first group, shown in the upper part of the table, this effect is negative and highly significant at the 1% error level for both the regression analysis on variables return on assets and on profit margin (ROA:  $\beta_{4\text{high}} = -.36$ ,  $p = .01$ ; Prof\_Marg:  $\beta_{4\text{high}} = -.28$ ,  $p < .01$ ; standardized solutions).



**Table 10: Results of the hypothesis tests for Model III: Multi-group model**

<b>Results for group “high competitive intensity”</b>						
	Standardized values			Unstandardized values		
	$\beta$	SE	$p$	$\beta$	SE	$p$
<b>ROA:</b>						
<b>Main effects</b>						
RelMO ( $\beta_1$ )	.39	.15	.01	.43	.14	.00
RoMO ( $\beta_2$ )	-.11	.12	.34	-.09	.11	.40
<b>Interaction effects</b>						
RelMO x RoMO ( $\beta_3$ )	.03	.15	.81	.00	.01	.82
RelMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.36	.15	.01	-.00	.00	.01
<b>Profit margin:</b>						
<b>Main effects</b>						
RelMO ( $\beta_1$ )	.43	.11	.00	.35	.11	.00
RoMO ( $\beta_2$ )	-.15	.08	.05	-.09	.07	.20
<b>Interaction effects</b>						
RelMO x RoMO ( $\beta_3$ )	-.07	.06	.25	-.00	.00	.31
RelMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.28	.09	.00	-.00	.00	.00

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**Results for group “low competitive intensity”**

	Standardized values			Unstandardized values		
	$\beta$	SE	<i>p</i>	$\beta$	SE	<i>p</i>
<b>ROA:</b>						
<b>Main effects</b>						
ReIMO ( $\beta_1$ )	.43	.19	.03	.29	.15	.06
RoMO ( $\beta_2$ )	-.21	.15	.17	-.12	.09	.17
<b>Interaction effects</b>						
ReIMO x RoMO ( $\beta_3$ )	.03	.16	.88	.00	.01	.88
ReIMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.19	.24	.42	-.00	.00	.44
<b>Profit margin:</b>						
<b>Main effects</b>						
ReIMO ( $\beta_1$ )	.45	.18	.02	.18	.09	.05
RoMO ( $\beta_2$ )	-.21	.12	.08	-.08	.05	.10
<b>Interaction effects</b>						
ReIMO x RoMO ( $\beta_3$ )	.10	.17	.56	.00	.00	.56
ReIMO x (RoMO) <sup>2</sup> ( $\beta_4$ )	-.26	.25	.30	-.00	.00	.32

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For the second group, the non-linear interaction effect is also negative but *not significant* for both regressions on return on assets and profit margin. Thus, a moderating effect of competitive intensity on the curvilinear effect could be shown in support of hypothesis 3. The graphical representation of this finding is shown in the Figures 9E and 9F for both outcome variables.

### **3.6 Discussion**

The point of departure of this study was the question of how two main orientations interact that have always shaped the marketing concept: an orientation towards customers and a profit orientation. I examined the interaction of a relationship marketing orientation, which I defined as an enduring organizational focus on investing resources into being a value-creating partner to customers, and a return-on-marketing orientation, which I defined as an enduring organizational focus on critically reviewing the payback of marketing investments.

Whereas the relationship marketing literature has strongly advocated that investments in relationships pays off (Cannon and Homburg 2001; Kalwani and Narayandas 1995), the return orientation has cautioned against overinvestments in customers and has focused on profitability and productivity in prior research (Cao and Gruca 2005; Zeithaml, Rust, and Lemon 2001). The few studies that have assessed the interaction of these two orientations, that is, whether the orientations are complementary or competing, have shown contradicting results (*e.g.*, Anderson, Fornell, and Rust 1997; Mittal et al. 2005; Rust, Moorman, and Dickson 2002).

To extend and reconcile these divergent views, I assessed both linear and non-linear interaction effects. In addition, I was interested in the effect of competitive intensity as a second moderator, that is, how competitive intensity moderates the non-linear interaction effect.

Relying on a cross-industry B2B and B2C market sample and objective firm performance data for two outcome variables, I find that a return-on-marketing orientation moderates the impact of a relationship marketing orientation on firm performance in a non-linear, u-shaped way. This finding reconciles prior conflicting findings as a return orientation can have both positive and negative effects depending on the actual level of a return-on-marketing orientation within a firm (see also the graphical representation in Figure 9). My findings show that there is an optimal, medium level of a return-on-marketing orientation that maximizes the relationship marketing orientation – firm performance link. Deviating from this optimal level, both higher and lower levels negatively affect the link between a relationship marketing orientation and firm performance.

In addition, my results show that deviating from this optimal point has more severe consequences in highly-competitive environments than in less competitive environments. In graphical terms, the inverse parabola is much steeper in highly-competitive situations than in lower ones (see Figures 9E and 9F). I was thus able to extend existing research by showing that competitive intensity does not only assume an important role as a control variable in research on dual orientations but that it also plays a decisive role in directly moderating the interaction of the two orientations.

### 3.6.1 Managerial implications

Managers in marketing and sales departments are often confronted with the strategic question of whether they should focus on investing resources in strategic relationships with customers or whether they should apply a rigorous return orientation in order to enhance the profitability of every customer, every product and every project. At first glance, a simultaneous pursuit of these two orientations seems rather counterproductive and difficult to achieve. My results have several implications in this regard.

First, it pays off to invest in marketing relationships. Investing in strategic customer relationships, in customer relationship management and aiming at generating customer value positively affects firm performance.

Second, the outcome of investments in marketing relationships can be enhanced if a firm simultaneously pursues a return orientation, but *only* if the return orientation is not exaggerated. The results clearly show that performance can be improved by consequently monitoring internal profitability and also eliminating unprofitable customers, products and projects. However, they equally show that an unrestricted willingness to direct the strategy within marketing and sales departments to a rigorous return and efficiency orientation is detrimental to firm performance. This finding is particularly noteworthy in this ongoing challenging economic environment where there is a trend towards a rigid return orientation and where firms are reluctant to invest in marketing relationships. Managers should thus balance the two strategic orientations and strive for identifying the optimum, medium level of a return orientation that maximizes the effect of a relationship marketing orientation on firm performance.

Third, finding the balance and the optimal level of a return orientation is particularly important for managers who act in a rough and competitive environment.

Managers in this environment should be particularly aware of the fact that deviating from the optimal level has a much stronger negative effect than in an environment with a lower competitive intensity. Resources should thus be dedicated to identify the optimum medium level of a return-on-investment orientation.

### **3.6.2 Limitations and suggestions for future research**

This study has some limitations which provide room for future research. As I chose a cross-industrial design to obtain generalizable results, the empirical study focuses on the short run and is silent about long-term effects. Further research could focus on the analysis of time-series, especially in order to analyze the long-term effect of strategic partnerships with customers as there could be an even stronger positive effect on firms' financial performance in the long run.

In terms of geographical reach, I focused on B2B and B2C markets in Germany and Switzerland. Further research could extend this study to additional geographical regions to also include other major economies and broaden the findings.

In addition, I proposed a new construct and a set of underlying items to measure a return-on-marketing orientation. This was a first attempt to capture a return perspective in marketing and sales. Future research could refine the measurement items and extend the construct by adding additional return dimensions.

A further avenue for future research consists of the potential moderating role of variables that have been considered as control variables in prior research. I showed that the variable competitive intensity, which was mainly used as a control variable in prior studies, has an important role to play as a *moderator* of the non-linear moderation effect of a return orientation on the relationship marketing orientation – firm performance link. Future research

should examine whether other controls of prior studies also have important roles in acting as moderators of the non-linear interaction effect.

Finally, my study urges researchers to shift away from only focusing on non-linear effects in the research stream of dual orientations and their impact on firm performance. As my study has shown, divergent views can be integrated by also taking non-linear interaction effects into account.

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## 5 Annex

**Table A-1: Empirical studies for the hypotheses on a relationship marketing orientation**

Author (year), title	Main related outcome	Industries	Sample	Data
Krasnikov, Jayachandran, and Kumar (2009)  The impact of CRM implementation on cost and profit efficiencies	CRM implementation is associated with a decline in cost efficiencies, but an increase in profit efficiency	US commercial banking industry	125 banks that had implemented CRM	Longitudinal data
Palmatier (2008)  Interfirm relational drivers of customer value	Relationship quality, contact density and contact authority are positively related to customer value  The positive association between contact authority and CV is greater as relationship quality increases	B2B cross-industrial survey (industrial products and services)	Dyadic data across 446 customers from 27 representative firms	Cross-sectional data
Verhoef, Frances, and Hoekstra (2002)  The effect of relational constructs on customer referrals and numbers of services purchased: Does age of relationship matter?	Significant moderation effect of relationship age on the effect of affective commitment, calculative commitment and satisfaction on services purchased	B2C context  Insurance company	1986 customers of an insurance company in the Netherlands	Single industry



Author (year), title	Main related outcome	Industries	Sample	Data
De Wulf, Odekerken-Schroder, Iacobucci (2001)  Investments in consumer relationships: A cross-country and cross-industry exploration	Different relationship marketing tactics have a differential impact on consumer perceptions of a retailer's relationship investment  Perceived relationship investment affects relationship quality, ultimately leading to behavioral loyalty  The effect of perceived relationship investment on relationship quality is contingent on a consumer's product category involvement and proneness to engage in retail relationships	B2C context  Food and apparel industries	1727 consumers  (US and Western Europe)	Cross-sectional
Cannon and Homburg (2001)  Buyer-supplier relationships and customer firm costs	An increased communication frequency, different forms of supplier accommodation, product quality, and the geographic closeness of the supplier's facilities to the customer's buying location lower customer firm costs	B2B context  Manufacturing firms in the chemical, mechanical, and electrical industries	478 firms (US and Germany)	Cross-sectional
Reinartz and Kumar (2000)  On the profitability of long-life customers in a non-contractual setting	Profits do not increase with increasing customer tenure  The cost of serving long-life customers is not lower; long-life customers do not pay higher prices	B2C context  US catalog retailer	9167 households	Longitudinal data (timeframe: three years)
Kalwani and Narayandas (1995)  Long-term manufacturer-supplier relationships: Do they	Positive effects of long-term relationships on firm performance:  Higher level of sales growth compared to control sample, higher profitability (ROA) and	B2B industries facing intense competitive pressures (e.g. automotive, machinery, electronics)	114 small sized firms  (matched control firms)	Cross-sectional and longitudinal data from COMPU-

Author (year), title	Main related outcome	Industries	Sample	Data
pay off for supplier firms?	<p>inventory cost reduction compared to control sample</p> <p>However, lower gross margins for firms in long-term relationships</p>		for 76 firms of the 114 firms)	STAT Data Base
<p>Morgan and Hunt (1994)</p> <p>The commitment-trust theory of relationship marketing</p>	<p>Examination of the nature of relationship marketing</p> <p>There is a negative relationship between relationship commitment and the propensity to leave</p>	<p>B2C context</p> <p>US sample of independent automobile tire retailers</p>	204 respondents	Single industry

**Table A-2: Underlying literature for the hypotheses on a return-on-marketing orientation**

<b>Return focus</b>	<b>Author (year), title</b>	<b>Methodology</b>	<b>Main focus</b>	<b>Link to return-on-marketing orientation</b>
Customers	Homburg, Droll, Totzek (2008)  Customer prioritization: Does it pay off, and how should it be implemented?	Empirical study B2B and B2C	Assessment of the effect of customer prioritization and whether it overall pays off, also with respect to potential negative effects on customer relationships	Customer prioritization ultimately leads to higher average customer profitability and a higher return on sales
Customers	Mittal, Sarkees and Murshed (2008)  The right way to manage unprofitable customers	Conceptual	Presentation of a customer divestment framework and reasons for and against customer divestment	Customer divestment as a “viable strategic option”
Customers	Sharma (2008)  Improving customer service and profitability through customer intervention in service relationships	Conceptual	Assessment of firm response with respect to customers who do not contribute to relationships through their conscious and unconscious behaviors	Suggestion that firms should undertake customer intervention for customers who do not contribute to relationships and look at separating customer segments and even firing customers leading to enhanced customer service and profitability
Customers	Haenlein, Kaplan and Schoder (2006)  Valuing the real option of abandoning unprofitable customers when calculating customer lifetime value	Development of an approach combining CLV analysis and real-options analysis	Modeling of a new CLV approach including the option to abandon or “fire customers” based on real-options analysis	Importance of abandoning unprofitable customers

<b>Return focus</b>	<b>Author (year), title</b>	<b>Methodology</b>	<b>Main focus</b>	<b>Link to return-on-marketing orientation</b>
Customers	Mittal and Sarkees (2006)  Customer divestment	Conceptual	Description of the process of customer divestment, report of a divestment framework and formulation of key research questions for future research	Customer divestment concept will become increasingly important  Future research question:  Long-term effects on customers and firms of a widespread move toward divestment across industries
Customers	Ryals (2005)  Making customer relationship management work: The measurement and profitable management of customer relationships	CLV analysis	Assessment of whether an analysis of the value of the customer has a positive influence on profits	The implementation of CRM activities generate better firm performance when managers focus on maximizing the value of the customer
Customers	Bolton, Lemon, and Verhoef (2004)  The theoretical underpinnings of customer asset management	Conceptual	Development of an integrated customer asset management of services (CUSAMS) framework	Marketing instruments influence customer behavior within the relationship, thereby influencing the value of the customer asset
Customers	Rust, Lemon, and Zeithaml (2004)  Return on marketing: Using customer equity to focus marketing	CLV analysis	Development of a framework enabling competing marketing strategy options to be traded off on the basis of projected financial return (operationalized as the change in a firm's customer	Many customers in a firm's portfolio make little, none, or negative contributions to firm value

Return focus	Author (year), title	Methodology	Main focus	Link to return-on-marketing orientation
			equity relative to the incremental expenditure necessary to produce the change)	
Customers	Hogan, Lemon, Libai (2003)  What is the true value of a lost customer?	Monte Carlo simulation and regression analysis	Demonstration of how the value of a lost customer depends on whether the customer defects to a competing firm or dis-adopts the product category altogether	Demonstration of how the value of a lost customer changes throughout the product life cycle, showing that the loss of an early adopter costs the firm much more than the loss of a later adopter
Customers	Berger et al. (2002)  Marketing actions and the value of customer assets	Conceptual	Development of a framework for customer asset management	By viewing customers as assets and systematically managing these assets, a firm can identify the most appropriate marketing actions to acquire, maintain and enhance customer assets and thereby maximize financial returns
Customers	Niraj, Gupta, and Narasimhan (2001)  Customer profitability in the supply chain	Empirical study  Regression analysis	Development of a model and measurement methodology to relate customer profitability to customer characteristics in a supply chain	The heterogeneity in customer purchasing characteristics leads to important profit implications
Customers	Zeithaml, Rust, and Lemon (2001)  The customer pyramid: Creating and serving profitable customers	Conceptual	Development of the "customer pyramid" as a tool to enable firms to utilize differences in customer profitability to manage for increased profitability	Customer profitability can be managed and increased. By sorting customers into profitability tiers service can be tailored to achieve higher profitability

<b>Return focus</b>	<b>Author (year), title</b>	<b>Methodology</b>	<b>Main focus</b>	<b>Link to return-on-marketing orientation</b>
Products/ Projects	Argouslidis and Baltas (2007)  Structure in product line management: The role of formalization in service elimination decisions	Empirical study  Regression analysis	Assessment of formalization in financial institutions' product line pruning decisions	Formalization enhances the procedural rationality of elimination decisions, and leads to customer-sensitive implementation strategies
Products/ Projects	De Figueiredo, Kyle (2006)  Surviving the gales of creative destruction: The determinants of product turnover	Hazard rate models and count regression models	Analyses of product entry and exit decisions and of how new technologies are adopted in broad product portfolios within firms, and in a competitive environment across firms	Link to competitive intensity: Competition and market structure variables have a large impact on both speeding product exit and delaying product entry
Products/ Projects	Keil, Montealegre (2000)  Cutting your losses: Extricating your organization when a big project goes awry	Conceptual	Development of a framework for timely terminating or redirecting failing projects	Importance of having the courage to terminate failing and unprofitable projects
Products/ Projects	Quelch and Kenny (1994)  Extend profits, not product lines	Conceptual	Description of the effects of line extensions on profits	Unchecked product line extensions can lead to an increase in hidden costs, weakened brand images and troubles relations with distributors

<b>Return focus</b>	<b>Author (year), title</b>	<b>Methodology</b>	<b>Main focus</b>	<b>Link to return-on-marketing orientation</b>
Services	Argouslidis and Baltas (2007)  Structure in product line management: The role of formalization in service elimination decisions	Empirical study  Regression analysis	The level of formalization in the elimination decision-making process depends on specific organizational and environmental conditions, including overall company strategy, product line length, market orientation, top management attitude toward line pruning, austerity of the regulatory context, and rate of technological change	Market orientation has a positive effect on the level of formalization (and of its components) in service elimination decisions