

Dennis Herhausen

Understanding Proactive Customer Orientation

Construct Development
and Managerial Implications



RESEARCH

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With a foreword by Prof. Dr. Marcus Schögel



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Foreword

Der Erfolg von Innovationen hängt per Definition von ihrer Akzeptanz im Markt ab. Dementsprechend nahe liegt es, den Kunden in die verschiedenen Phasen des Innovationsprozesses aktiv einzubinden. Jedoch weisen die Ergebnisse der Marketing- und Innovationsforschung der letzten Jahrzehnte darauf hin, dass Kunden nur über ein begrenztes Verständnis ihrer Bedürfnisse verfügen. Zwar sind sie in der Lage bestehende Bedürfnisse zu schildern; zukünftige Anforderungen oder Notwendigkeiten, die Produkte und Leistungen zu erfüllen haben, können sie vielfach jedoch ebenso wenig wie Experten vorhersagen.

Doch gerade erfolgreiche Unternehmen zeichnen sich dadurch aus, dass sie in der Lage sind, unerschlossene, sogenannte latente Bedürfnisse, anzusprechen und damit neue Märkte für sich zu erschliessen. Dieses proaktive Verständnis der markt- und kundenorientierten Unternehmensführung gewinnt in den letzten Jahren immer mehr an Bedeutung, versuchen doch Anbieter durch einzigartige Lösungen Wettbewerbsvorteile in ihren Märkten zu realisieren. Unternehmen wie Apple, 3M oder Sony sind nur einige Beispiele für ein derartig proaktives Verständnis der Kundenorientierung. Bisher liegen aber nur wenige Arbeiten vor, die sich mit dem Problem der Identifikation von latenten Kundenbedürfnissen beschäftigen. Hier setzt die Dissertation von Dennis Herhausen an.

Um sich dieser strategischen Fragestellung anzunähern, widmet sich Herr Herhausen den Unterschieden zwischen proaktiver und reaktiver Marktorientierung. Der Tradition ressourcenorientierter Ansätze folgend erläutert und verknüpft er die Aspekte des marktorientierten Lernens und die Eigenschaften marktbasierter Innovationen. Anhand einer detaillierten Bestandsaufnahme der relevanten Literatur und managementbasierter Erkenntnisse entwickelt er einen eigenen Bezugsrahmen für die Erfassung latenter Bedürfnisse. Aus Sicht des Verfassers sind für eine proaktive Kundenorientierung vor allem ein entsprechendes Klima im Unternehmen sowie innovative Marktforschungsprozesse von zentraler Bedeutung. Diese Differenzierung bietet nicht nur eine geeignete Grundlage für die weiteren empirischen Überlegungen, sondern kann auch als fruchtbare Basis für praxisorientierte Analysen und Überlegungen genutzt werden.

Neben einer theoretisch-konzeptionellen Fundierung stützt sich die Arbeit auf eine umfassende Datengrundlage. So gelang es dem Verfasser, Daten von über 400 Unternehmen verschiedenster Branchen auszuwerten und damit der Untersuchung

einen allgemeingültigen Charakter zu verleihen. Die Studienergebnisse bestätigen die zentrale Bedeutung einer proaktiven Kundenorientierung für den Innovationserfolg und der Schaffung von Kundenwert. Die abschliessende Betrachtung von vier Unternehmensfallstudien bietet dem Leser zudem einen vertiefenden Einblick in den praktischen Umgang mit einer proaktiven Kundenorientierung.

Im weiteren Verlauf der Arbeit wird eine mehrstufige Roadmap entwickelt, die situativ auf verschiedene Unternehmenssituationen angepasst und genutzt werden kann. Der Erfolg stellt sich dabei nur durch ein systematisches und integratives Vorgehen ein. In einzelnen sollten von Unternehmen interne Barrieren überwunden, Mitarbeiter motiviert, innovative Marktforschungsmethoden eingesetzt und die zukünftigen Kundenbedürfnisse systematisch in Innovationsprozesse integriert werden. Eine Checkliste gibt Managern konkrete Hinweise, wo sie in ihrem Unternehmen ansetzen können. Wenn Unternehmen die identifizierten Faktoren zielgerichtet optimieren, können sie zukünftige Kundenbedürfnisse sicherlich erfolgreicher ansprechen und so einen überdurchschnittlichen Unternehmenserfolg erzielen.

Insgesamt trägt die theoretisch und methodisch anspruchsvolle Arbeit von Herrn Herhausen wesentlich zur Erweiterung des wissenschaftlichen Kenntnisstandes über den erfolgreichen Umgang mit marktverändernden Innovationen bei. Vor diesem Hintergrund ist der Arbeit eine weite Verbreitung sowohl in der Wissenschaft als auch in der Praxis zu wünschen.

Prof. Dr. Marcus Schögel

Preface

Die vorliegende Dissertation ist während meiner Zeit als wissenschaftlicher Mitarbeiter am Institut für Marketing der Universität St. Gallen entstanden. An dieser Stelle möchte ich daher all jenen danken, die zum Gelingen dieser Arbeit beigetragen und mich in den letzten Jahren unterstützt haben.

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Teile dieser Dissertation sind entstanden, während ich Visiting Academic an der Cardiff Business School, Cardiff University war. Ich möchte dem Schweizer Nationalfonds (SNF) dafür danken, dass er mir diese lehrreiche und sehr interessante Zeit in Cardiff ermöglicht hat. *Professor Robert Morgan* und *Dr. Luigi De Luca* danke ich für ihr Interesse an meiner Forschung, die äusserst lehrreiche Zusammenarbeit und ihr wertvolles Feedback zu meinen Ideen.

Spezieller Dank geht auch an meine Kollegen *Sabrina Blawath*, *Jochen Binder* und *Philip Schnaith* für ihre wertvollen Hinweise sowie *Johannes Hattula* und *Peter Fischer* für ihre Unterstützung bei der Datenerhebung. Auch möchte ich mich bei allen Teilnehmern des 23rd EMAC Doctoral Colloquium in Kopenhagen, der Marketing Forschungstagungen in St. Gallen und Berlin sowie der Forschungsseminare des Instituts für Marketing ganz herzlich für die hilfreichen Kommentare zu meiner Arbeit bedanken.

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Mein grösster Dank gilt allerdings meiner Familie, *Petra Herhausen*, *Robin Herhausen* und *Hans-Erich Herhausen*, die immer an mich geglaubt haben und mich in meinem Werdegang uneingeschränkt unterstützt und gefördert haben.

Ihnen widme ich diese Arbeit.

Cardiff und St. Gallen, Mai 2011

Dennis Herhausen

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Abstract

This work is devoted to the question of how managers can successfully probe latent needs and uncover future needs of customers, labeled as proactive customer orientation. To answer this question, three stages of research are deployed: (1) An exploratory study investigating two different dimensions of proactive customer orientation, (2) a quantitative study investigating consequences, antecedents, and factors that moderate the effects of proactive customer orientation, and (3) a qualitative study investigating situation-specific recommendations on how to increase proactive customer orientation.

First, based on an observation of specialized proactive customer-oriented departments, expert interviews, workshops with managers, and a meta-analysis of existing research, two dimensions of proactive customer orientation are defined, proactive customer-oriented climate and proactive customer-oriented processes. New scales are developed for the two constructs, and the reliability, validity, and generalizability of the second-order measurement models are supported by an empirical study of 218 business-to-business firms and 202 business-to-consumers firms.

Second, detailed research hypotheses are developed and tested with a cross-industry sample of 420 key informants, 82 additional informants, and 51 customers. Using structural equation modeling and hierarchical regression, the empirical results support that proactive customer-oriented climate and proactive customer-oriented processes are positively related with exploratory innovation and exploitative innovation, customer value, and superior business performance. Furthermore, four organizational values are identified as antecedents of proactive customer orientation, and several organizational characteristics moderate the relative importance of climate and processes for innovation, customer value, and performance.

Third, a systematic change process is developed to guide managers that aim to increase their company's proactive customer orientation. More specifically, a four-step process is recommended to successfully probe latent needs and uncover future needs of customers and introduce market-based innovations. However, a cluster analysis revealed different market-based innovation strategies. Typical firms for each strategy are described and situation-specific recommendations regarding resource allocation are given.

Zusammenfassung

Die vorliegende Arbeit beschäftigt sich mit der Frage, wie Manager erfolgreich latente und zukünftige Kundenbedürfnisse identifizieren können. Diese Fähigkeit wird als proaktive Kundenorientierung (PKO) bezeichnet. Zur Beantwortung der forschungsleitenden Fragestellung werden drei verschiedene Forschungsphasen durchgeführt: (1) Eine explorative Studie zur detaillierten Untersuchung der PKO, (2) eine quantitative Studie zur Identifizierung von Konsequenzen, Voraussetzungen und Moderatoren der PKO, und (3) eine qualitative Studie zur Ableitung situationsspezifischer Empfehlungen, wie Manager die PKO ihres Unternehmens erhöhen können.

Zunächst werden auf Basis von Innovationsabteilungen, die sich mit zukünftigen Kundenbedürfnissen beschäftigen, Experteninterviews, Workshops mit Führungskräften und einer Meta-Analyse der bestehenden Forschung zwei Dimensionen der PKO identifiziert. Die beiden Dimensionen beziehen sich auf das Klima und die Prozesse der PKO. Neue Messinstrumente für die beiden Konstrukte werden entwickelt und durch eine empirische Untersuchung von 218 Industriegüterunternehmen und 202 Konsumgüterunternehmen auf ihre Zuverlässigkeit, Validität und Generalisierbarkeit überprüft.

Nachfolgend werden detaillierte Hypothesen zu den Konsequenzen, Voraussetzungen und Moderatoren der PKO entwickelt und mit einer branchenübergreifenden Stichprobe von 420 Schlüsselinformanten, 82 zusätzlichen Informanten und 51 Kunden überprüft. Die Ergebnisse der Datenauswertung zeigen, dass Klima und Prozesse der PKO einen positiven Einfluss auf die Fähigkeit zu radikalen und inkrementellen Innovation sowie den Kundennutzen und das Geschäftsergebnis von Unternehmen haben. Vier organisatorische Werte fördern eine ausgeprägte PKO, und verschiedene Moderatoren beeinflussen die relative Bedeutung von Klima und Prozesse der PKO.

Abschliessend werden ein systematischer Vier-Stufen-Prozess zur Erhöhung der PKO für Manager entwickelt und eine Clusteranalyse zu Bestimmung verschiedener Innovationsstrategien durchgeführt. Typische Unternehmen für jede Strategie werden beschrieben und situationsspezifische Empfehlungen zur effektiven und effizienten Identifizierung latenter und zukünftiger Kundenbedürfnisse gegeben.

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Abbreviations

ANOVA	Analysis of Variance
AT	Atmosphere (Proactive Customer-Oriented Climate)
AVE	Average Variance Extracted
AW	Awareness (Proactive Customer-Oriented Climate)
B2B	Business-to-Business
B2C	Business-to-Consumer
CEO	Chief Executive Officer
CFA	Confirmatory Factor Analysis
CFI	Comparable Fit Index
CI	Customer Integration (Proactive Customer-Oriented Processes)
CR	Composite Reliability
EFA	Exploratory Factor Analysis
GU	Guidance (Proactive Customer-Oriented Climate)
HRA	Hierarchical Regression Analyses
IFI	Incremental Fit Index
IFMO	Institute for Mobility Research
IMP	Relative Importance
IN	Infrastructure (Proactive Customer-Oriented Climate)
IR	Indicator Reliability
MIL	Marketing Innovation Department (BMW Group)
N.S.	Not Significant
PCO	Proactive Customer Orientation
QM	Qualitative Methods (Proactive Customer-Oriented Processes)
R&D	Research and Development
RMSEA	Root Mean Square Error of Approximation
SA	Scenario Approaches (Proactive Customer-Oriented Processes)
SD	Standard Deviation
SBU	Strategic Business Unit
SEM	Structural Equation Model
TLI	Tucker-Lewis Coefficient
TW	Trend Watching (Proactive Customer-Oriented Processes)

1 Introduction

"Any company that drives forward while looking out the rear view mirror will, sooner or later, run into a brick wall [...] similarly, any company that can do no more than respond to the articulated needs of existing customers will quickly become a laggard."

Gary Hamel and C.K. Prahalad: *Competing for the Future* (1994, p. 76)

1.1 Problem Orientation

The first Blockbuster store, an American-based chain of DVD and video game rental, opened in Dallas, Texas in 1985. In the following two decades Blockbuster experienced a high popularity and tremendous growth, including well known advertising campaigns during the Super Bowl. Blockbuster became a multi-billion dollar company with over 6,500 stores in the U.S. and 17 countries worldwide, and the world leader for video renting. During this time, Blockbuster scored high on customer satisfaction rankings and introduced user-based innovations, for example "special weekend packs" and "no-late-fees" pricing options. However smaller rivals like Netflix and Redbox recognized what Blockbuster had failed to - that customers' expectations were changing. Although Blockbuster conducted regular customer surveys and market tests, they were not aware that due to new technological possibilities, customers would demand more convenience, service, and value in the future. While Netflix and Redbox successfully identified these upcoming needs and provided solutions, Blockbuster failed to do so and saw significant revenue losses over the past years. Blockbuster became a laggard, and finally filed for bankruptcy on September 23, 2010¹.

The case of Blockbuster points to the fact that companies which drive forward while looking out the rear view mirror will, sooner or later, run into a brick wall. Other examples of firms that suffer losses because they miss the opportunity to serve new needs of their customers include General Motors (Ketchen, Hult, and Slater 2007), Mattel (Day and Schoemaker 2005), Siemens (Ofek and Wathieu 2010) and Sony

¹Case description is based on Blockbuster 2010; Bloomberg 2002; Halkias 2010; Mayer 2010; Munoz 2005.

(Zeithaml et al. 2006). However these firms are not alone with their problems to identify latent and future needs. A recent study of 300 organizations by Blocker et al. (2010) revealed that many firms are aware of the importance of latent and future needs. Yet most firms in the study reported minimal competencies in identifying these needs. As the example of Blockbuster emphasized, firms that do not advance beyond the traditional voice of the customer processes and thus do not excel at proactively anticipating customers' latent and future needs will find themselves at a competitive disadvantage (Zeithaml et al. 2006). Thus, this study addresses the following central research question:

What can managers do to successfully probe latent needs and uncover future needs of customers²?

By providing solutions to customers' needs firms are able to create superior customer value (e.g., Day 1994; Kohli and Jaworski 1990; Narver and Slater 1990) which eventually leads to business success (e.g., Belz and Bieger 2006; Day and Wensley 1988; Drucker 1993; Kotler and Keller 2008; Porter 1985; Rust, Moorman, and Bhalla 2010; Woodruff 1997). Although being responsive to customer requests plays a critical role in creating customer value (e.g., Homburg, Grozdanovic, and Klarmann 2007; Jayachandran, Hewett, and Kaufman 2004; White, Varadarajan, and Dacin 2003), a mere responsive orientation towards customers addresses only expressed needs and may lead to the innovator's dilemma (Christensen 1999; Henderson 2006). As stated by Zeithaml et al. (2006, p. 177), "it is important to recognize that customer may not know what they want, or may not be able to imagine what they may want in the future." As the example of Blockbuster emphasized, firms within the innovator's dilemma fail to serve new needs of customers or new markets. Consequently Narver, Slater, and MacLachlan (2004) stated that many businesses appear to have an incomplete understanding of what it means to be customer oriented because they concentrate on its responsive dimension and ignore its proactive dimension³ (Kohli and Jaworski 1990; Slater and Narver 1998, 1999). On the contrary, firms with a proactive customer orientation address latent and emerging customer needs which may

² The term "customer" describes served customers as well as unserved customers of a firm through the whole work (e.g., Hamel and Prahalad 1994; Slater and Narver 1998, 1999).

³ Narver et al. (2004) specify proactive and responsive market orientations as two forms of market orientation. However, the constructs they measure deal only with identifying and satisfying customers' needs and do not encompass the other traditional dimensions of market orientation. Thus, in the interest of being more precise the author utilizes the terms proactive customer orientation and responsive customer orientation (see also Blocker et al. 2010).

lead to new opportunities for customer value (Jaworski, Kohli, and Sahay 2000; Slater and Narver 1998, 1999).

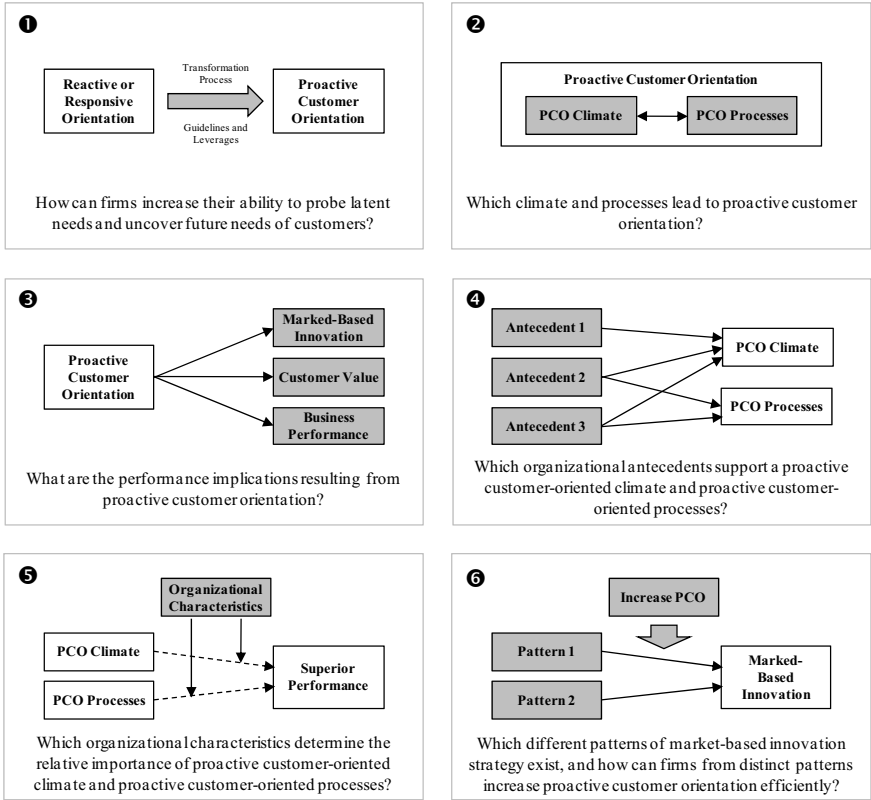
Despite its importance, many firms appear to frequently neglect or inadequately attend to this proactive dimension (e.g., Blocker et al. 2010; Day and Schoemaker 2004; Ketchen et al. 2007; Tuli, Kohli, and Bharadwaj 2007). Moreover research exploring how firms learn about and act upon customers' needs has predominantly focused on responding effectively to customers' current, expressed needs. With few exceptions (Atuahene-Gima, Slater, and Olson 2005; Blocker et al. 2010; Li, Lin, and Chu 2008; Narver et al. 2004; Tsai, Chou, and Kuo 2008), little empirical insight into the nature, consequences, antecedents, and contingency factors of proactively understanding customers' latent and future needs has been achieved. Thus, aside from the gap in managerial practice, there is also a research gap on proactive customer orientation.

1.2 Research Gaps and Goals of this Work

In order to tackle the central question of what managers can do to successfully probe latent needs and uncover future needs of customers, it is necessary to break the question down into the key issues that have not been addressed by previous research. More specifically, existing research has not focused on at least six important aspects. Overall, no framework and guidelines on how firms can effectively probe latent needs and uncover future needs of their customers exist to date. Second, it remains unclear what exactly determines proactive customer orientation. Third, it lacks a comprehensive understanding of the performance implications resulting from proactive customer orientation. Fourth, little is known about organizational antecedents that support proactive customer orientation within a firm. Fifth, existing research has not investigated which organizational characteristics determine the relative importance of proactive customer orientation for market-based innovations. Finally, little is known about different patterns of strategy that may result in market-based innovations.

The objective of the present dissertation is to fill the critical research gaps related to latent and future needs with an in-depth examination of the nature, consequences, antecedents, and contingency factors of proactive customer orientation. The resulting research questions that tackle the six research gaps are displayed in Figure 1–1.

Figure 1–1: Research Questions



Research Gap 1: Academic research (e.g., Gebhardt, Carpenter, and Sherry Jr 2006; Lam, Kraus, and Ahearne 2010; Narver, Slater, and Tietje 1998) as well as more practitioner-oriented research (e.g., Day 1999a; Rust et al. 2010; Slater and Narver 1994) have already developed many detailed models to explain how firms can become more customer-oriented. However, these models focus on responding to customers' expressed needs. Little is known of how firms may systematically achieve a high level of proactive customer orientation. Hence, the first goal of this work is to develop a framework for managers, with recommendations of what they can do to probe latent needs and uncover future needs of customers.

Goal 1: Developing a framework and guidelines on how firms can increase their ability to probe latent needs and uncover future needs of customers.

However, to do this successfully, firms need insights about what exactly leads to proactive customer orientation (*Research Gap 2*), the overall performance implications resulting from proactive customer orientation (*Research Gap 3*), organizational antecedents that support proactive customer orientation (*Research Gap 4*), and organizational characteristics that determine the relative importance of proactive customer-orientation (*Research Gap 5*). All these issues have not been addressed in a sufficient way. Thus, answers to these research gaps are necessary to develop a managerial roadmap towards proactive customer orientation.

Research Gap 2: Recent research distinguished between two dimensions of customer orientation, described as the affective organizational system ("culture") and the cognitive organizational system ("processes") (Homburg et al. 2007; Hult, Ketchen, and Slater 2005). Evidence from an in-depth examination of specialized departments for probing latent needs and uncovering future needs led to a related distinction (see Chapter 2.4 for details). Such departments have a distinct climate (affective component) and use different processes (cognitive component) than other departments that aim to satisfy current needs, for instant the marketing or sales department. One example is Moto City from Motorola, located in a distinct building apart from the rest of the company in downtown Chicago. With its open spaces and waist-high cubicles for even senior managers, the lab fostered teamwork, broke down barriers and led to a specific climate. Furthermore specific methods for market research are employed, as stated by senior director Gary R. Weiss: "*We did not want to be distracted by the normal inputs we get. It would not have allowed us to be as innovative*" (Weber, Holmes, and Palmeri 2005, p. 2). To date, however, both the climate and processes of proactive customer orientation have not been examined in detail. Consequently Blocker et al. (2010) call for more research focusing on basic firm resources, such as the knowledge, skills and values of employees and the unique types of data required that interact to comprise proactive customer orientation. Therefore, the second goal of this work is to identify what type of climate and which processes constitute proactive customer orientation.

Goal 2: Description of the climate and processes that lead to proactive customer orientation.

Research Gap 3: Marketing and strategy research dealing with the performance implications of customer orientation received some ongoing critiques on two issues, the *existence* of a positive effect and the *causality* of the potential effect. Some scholars doubt that customer orientation has a positive effect on business performance (e.g., Berthon, Hulbert, and Pitt 2004; Christensen and Bower 1996). To address these concerns, the performance implications of a proactive customer-oriented climate and proactive customer-oriented processes will be examined with two different and complementary methods, structural equation model and hierarchical regression. While the former allows controlling for measurement errors, several control variables will be incorporated in the latter analysis (e.g., R&D spending, marketing spending, technology orientation, responsive market orientation). Other scholars doubt that a strategic resource like customer orientation may affect business performance at all due to a tautological nature of the underlying resource-based view (e.g., Connor 2007; Priem and Butler 2001a, 2001b). To address this concern and because a simple resources–performance link obviously lacks face validity (Ketchen et al. 2007), all core concepts of the resource-based view will be incorporated in the performance implications: Strategic resource (proactive customer orientation), strategic action (superior offerings, in other words exploratory and exploitative innovation), competitive advantage (higher customer value), and superior business performance. Thus, the third goal is to revise and refine the performance implications of proactive customer orientation.

Goal 3: Revisiting the performance implications resulting from proactive customer orientation by incorporating exploratory innovation, exploitative innovation, customer value, and business performance.

Research Gap 4: There has been notable work on organizational characteristics that support various forms of innovation (e.g., Birkinshaw and Mol 2006; Chandy and Tellis 1998; Damanpour 1991; Kimberly and Evanisko 1981) or market orientation (e.g., Homburg and Pflesser 2000; Matsuno and Mentzer 2000; Meehan, Barwise, Vandenbosch, and Smit 2007). However, little is known about the organizational antecedents that support proactive customer orientation. More specifically, it lacks insights about mutual values within organizations that are important to engage employees in a proactive customer-oriented climate and proactive customer-oriented processes. Such knowledge would be crucial for managers to increase the level of proactive customer orientation within an organization. Therefore, another goal of this

study is to close this research gap by identifying organizational antecedents that provide a basis for proactive customer orientation.

Goal 4: Determining organizational antecedents that support proactive customer-oriented climate and proactive customer-oriented processes.

Research Gap 5: Although the affective organizational system ("climate") as well as the cognitive organizational system ("processes") of customer orientation both contribute significantly to business performance (e.g., Day 1994; Hult et al. 2005; Matsuno, Mentzer, and Rentz 2005), their relative importance differ due to organizational characteristics (Homburg et al. 2007). The same is assumed for proactive customer orientation: For some firms, the affective-driven attention to customer's needs may be crucial, while for other firms cognitive-driven processes to uncover needs may be more important. Examples for the relative importance can be found in the comparison of a multinational company and a start-up entrepreneur. On the one hand, a multinational company operating worldwide in various industries may have pronounced market research capabilities or even a specialized department for probing the latent needs and uncovering the future needs of customers but still fail to respond to new developments due to organizational inertia (Miller 1994). On the one hand, a start-up entrepreneur may have the necessary organizational climate to respond to new developments but lack market research capabilities to identify latent and future needs of customers (Matsuno, Mentzer, and Özsomer 2002). Thus, the next goal of this research is to examine factors that determine the situational importance of proactive customer-oriented climate and proactive customer-oriented processes for superior offers.

Goal 5: Identification of organizational characteristics that determine the relative importance of proactive customer-oriented climate and processes for exploratory and exploitative innovation.

Research Gap 6: Besides proactive customer-oriented climate and proactive customer-oriented processes, extant research has already identified a broad set of antecedents of market-based innovations⁴, with the assumption that maximizing as many of them as

⁴ Contrary to Zhou, Yim, and Tse (2005, p. 42) who define market-based innovations as an innovation type that "departs from serving existing, mainstream markets", the author uses a wider understanding of this term and

possible leads to superior customer value (e.g., Atuahene-Gima et al. 2005; De Luca, Verona, and Vicari 2010; Hauser et al. 2006; Zhou and Wu 2010; Zhou et al. 2005). However, many organizations face resource constraints and must strive to identify and combine the most important drivers of market-based innovations effectively because there is more than one way to succeed and many different situations for firms, various configurations can lead to superior innovation performance. Thus, following configuration theory, an organization's search for dominant gestalts or configurations may lead to superior performance (e.g., Ketchen, Thomas, and Snow 1993; Ward, Bickford, and Leong 1996). Moreover configuration theory integrates all relevant variables within the organization's configuration (Meyer, Tsui, and Hinings 1993). Firm resulting performance reflects the degree of consistency or fit among the variables in a configuration, such that a higher fit improves performance and reveals ideal configurations that yield superior performance (Venkatraman 1989; Vorhies and Morgan 2003). Consequently, the final research goal addresses this relevant challenge for companies by identifying typical patterns of market-based innovations and their associated performance implications. Furthermore the most important drivers of proactive customer orientation for distinct types of firms will be identified to provide situation-specific recommendations regarding resource allocation.

Goal 6: Determination of different patterns of strategy that result in market-based innovations and distinct measures to efficiently probe latent needs and uncover future needs of customers.

1.3 Epistemological Research Background

To tackle the research goals, the present study employs qualitative and quantitative research methods according to the paradigm of reality-oriented research (Ulrich 1981). This kind of applied management research is based on reality and addresses situations and problems actually occurring in business practice, for example shortcomings in addressing latent and future needs. As Tomczak (1992, p. 83) pointed out, "reality-oriented research tries to describe, explain and solve problems and phenomena by

summarize all innovations that are based on customer needs (expressed, latent, and future needs) as market-based innovations (see also Hauser, Tellis, and Griffin 2006). This includes exploratory as well as exploitative innovations.

means of theory-based empirical research⁵." Hence, marketing research is employed as an iterative process, where problems are elaborated in detail during the research progress, and subsequent problem-solving efforts are triggered by preliminary research outcome. The aim of the outlined research is not only to describe and explain observations regarding proactive customer orientation, but also to provide results useful in solving practical problems in terms of managerial implications. Thus, the combination of explorative research (e.g., conceptualization of proactive customer orientation, expert interviews to identify the organizational antecedents) with quantitative methods (e.g., scale validation, hypotheses testing, cluster analysis) and qualitative methods (case studies of different innovation patterns) aims to develop a model corresponding closely to reality (Tomczak 1992).

Because the whole research process is based primary on problems occurring actually in management practice, the choice of methods was based on the following principles (Dyllick and Tomczak 2007; Tomczak 1992):

- *Problem Orientation*: The choice of research methods depends on the subject (proactive customer orientation), the research questions (Chapter 1.2) and the state of existing research (Chapter 2.3).
- *Validity*: Connecting results from several research methods increases the validity of the results since errors of certain methods can be minimized (Green and Tull 1982).
- *Diversity of Results*: Combining research methods from different angles yields varied results, and different views of reality are taken into account during the analysis of situations, problems and solutions.
- *Efficiency of Research*: The combination of research methods facilitates reaching the intended aims (Evidence to successfully probe latent needs and uncover future needs of customers) with an adequate effort.

Besides a rigorous empirical proceeding, this study aims to fulfill the requirements of descriptive relevance, goal relevance, operational validity, non-obviousness, and timeliness (Dyllick and Tomczak 2007; Tomczak 1992). Consequently, it claims to combine managerial relevance and research rigor to serve both academics and

⁵ Original Statement in German, translated by the author.

practitioners (e.g., Reibstein, Day, and Wind 2009; Shrivastava 1987; Varadarajan 2003).

Together, the six research goals serve the main objective of this research to help managers to probe latent needs and uncover future needs (*addressed by goal 1*). First, managers need to know which climate and processes determine proactive customer orientation (*addressed by goal 2*). Second, it is important for them to know the performance implications of a proactive customer orientation to counterbalance the potential costs associated with it (*addressed by goal 3*). Third, managers need to understand which organizational characteristics are associated with proactive customer orientation to identify antecedents within the organization (*addressed by goal 4*). Fourth, proactive customer-oriented climate and proactive customer-oriented processes may have different performance implications due to organizational characteristics. Thus, the internal situation of the firm needs to be incorporated in investment decisions related to proactive customer orientation (*addressed by goal 5*). Finally, managers face resource constraints and therefore must identify promising strategies towards market-based innovations (*addressed by goal 6*).

1.4 Structure of the Dissertation

The research goals from Chapter 1.2 also provide the thread thorough the dissertation (Figure 1–2). Chapter 2 provides the theoretical background of the research, including an overview of the relevant marketing and strategy literature that will serve as a basis for elaborating the central constructs. Moreover the section identifies the two dimensions of customer orientation and closes with the conceptual framework. Chapter 3 develops a detailed understanding and a measurement model for proactive customer-oriented climate and proactive customer-oriented processes that is based on an extensive literature review, workshops with firms, and expert interviews (*goal 2*). The proposed dimensions are then tested on a cross-sectional sample of 420 firms. Chapter 4 presents the detailed research hypotheses resulting from the conceptual framework. Chapter 5 empirically tests the hypothesized performance implications of proactive customer orientation (*goal 3*), its antecedents (*goal 4*), and the moderating effects of different organizational characteristics (*goal 5*) with a sample of 420 key informants, 82 additional informants, and 51 customers. A managerial roadmap to create proactive customer orientation will be developed in Chapter 6 (*goal 1*).

Furthermore, different patterns of market-based innovation strategies will be identified, and situation-specific recommendations will be provided (*goal 6*). Chapter 7 includes a summary of the findings and the answers to the six research goals. Afterwards, the theoretical and managerial implications that can be derived from this work, its limitations, and promising avenues for further research will be discussed.

Figure 1–2: Structure of the Dissertation

Chapter 1: Introduction

Problem Orientation, Research Gaps, and Goals of this Work

pp. 1-12

Chapter 2: Conceptual Development

Review of Theoretical Foundations and Development of a Conceptual Framework

pp. 13-34

Chapter 3: Scale Development

Review of Existing Scales, Construct Development, Item Generation, and Data Analysis

pp. 35-55

Chapter 4: Hypotheses Development

Generation of Research Hypotheses to be Tested in a Cross-Sectional Study

pp. 56-75

Chapter 5: Hypotheses Testing and Results

Measurement, Structural Equation Model, Linear Regression, and Multigroup Analyses

pp. 76-100

Chapter 6: Creating Proactive Customer Orientation

Recommendations, Cluster Analysis, Typical Patterns of Market-Based Innovations

pp. 101-143

Chapter 7: Conclusions

Discussion, Contribution, Implications, Limitations, and Further Research

pp. 144-154

2 Conceptual Development

This chapter presents a comprehensive review of the conceptual foundations that lead to the construct development in Chapter 3 and the formulation of the hypotheses in Chapter 4. The first part of this chapter introduces the resource-based view of the firm as the theoretical background of this study and elaborates on the two dimensions of customer orientation, responsive customer orientation and proactive customer orientation. To gain a clearer understanding of how performance might be affected by proactive customer orientation, research that has been conducted in this field is reviewed in the second part. The third part of this chapter differentiates between the proactive customer-oriented climate and proactive customer-oriented processes based on evidence from specialized departments and insights from existing research, and finally the conceptual model is developed.

2.1 Theoretical Background: Resource-Based View of the Firm

The *resource-based view of the firm* serves as the overarching theoretical framework for this study. Within the resource-based view, an inside-out perspective is assumed, suggesting that firms should start focusing on their resources and capabilities and subsequently on the environment (Penrose and Slater 1959; Wernerfelt 1984), in contrast to the industry-based determinism of the Porterian outside-in perspective (Porter 1980). Thus, the resource-based view focuses on firm specific resources to identify the strength and weaknesses of a firm (Barney 1991; Wernerfelt 1984, 1995). This perspective suggests that a firm's resource endowment is crucial for gaining a competitive advantage. The market for such resources is imperfect, explained by the complexity of business development and the restricted capacity to develop and trade resources (Teece, Pisano, and Shuen 1997). In other words, firms within an industry may be heterogeneous with respect to the strategic resources they control, resources may not be perfectly mobile across firms, and heterogeneity can be long lasting (Barney 1991). Resources are defined as "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm to conceive of and implement strategies that improve its efficiency and effectiveness" (Barney 1991, p. 101). Hence, a resource has to be valuable, rare, imperfect imitable, and non-substitutable to lead to a sustainable competitive advantage (Eisenhardt and

Martin 2000). These requirements and attributes determine the way in which superior performance is achieved through distinctive resources that competitors are unable to reproduce (Bharadwaj, Varadarajan, and Fahy 1993; Hunt and Lambe 2000).

However, strategic resources have only a potential value, and realizing this potential requires strategic actions (Ketchen et al. 2007). Thus, recent studies move beyond a direct resources–performance link and attempt to more fully capture the resource-based view by assessing the action component of its underlying framework (e.g., Homburg et al. 2007; Hult et al. 2005; Verhoef and Leeflang 2009; Vorhies, Morgan, and Autry 2009). To account for this theoretical improvement, proactive customer orientation is not directly linked to superior performance. Rather the entire chain of the resource-based view will be considered.

Figure 2–1: The Core Concepts of the Resource-Based View



Following the core concepts of the resource-based view depict in Figure 2–1, proactive customer orientation is defined as a valuable, rare, imperfect imitable and non-substitutable strategic resource within a firm (Hunt and Lambe 2000). The resulting strategic action may be described as responsiveness to customers latent and future needs (White et al. 2003), in other words superior offerings that match the identified needs. These offerings lead to a competitive advantage in terms of customer value (Blocker et al. 2010; Woodruff 1997), eventually resulting in superior performance (Flint, Woodruff, and Gardial 2002; Tuli et al. 2007).

2.2 Responsive and Proactive Market Orientation

Grounded in the resource-based view, Kohli and Jaworski (1990) and Narver and Slater (1990) were among the first to articulate a theory of market orientation. They defined *market orientation* as "the organizationwide generation of market intelligence

pertaining to current and future customer needs, dissemination of the intelligence across departments, and organizationwide responsiveness to it" (Kohli and Jaworski 1990, p. 6), and *customer orientation* as "the sufficient understanding of one's target buyers to be able to create superior value for them continuously" (Narver and Slater 1990, p. 21). During the past two decades, there has been an ample stream of research exploring the construct of market orientation, its antecedents, contingency factors, and performance implications (For overviews see, for example, Baker and Sinkula 2005, p. 485; De Luca et al. 2010, pp. 303-307; Gotteland and Boulé 2006, pp. 180-181; Meehan et al. 2007, pp. 107-109).

A recent meta-analysis suggests that being market oriented is associated with superior performance in profitability, sales growth, and new-product success (Kirca, Jayachandran, and Bearden 2005). However some scholars criticize that being market-oriented may harm firms. Hamel and Prahalad (1994) argue that a pronounced market orientation leaves the organization open to the tyranny of the served market in which managers see the world only through their current customers' eyes. Berthon, Hulbert, and Pitt (1999) state that being market oriented detracts from innovation. Christensen and Bower (1996, p. 198) suggest that "firms lose their position of industry leadership [...] because they listen too carefully to their customers." Furthermore it is claimed that market orientation may lead to myopic research and development (Frosch 1996), or may confuse business processes (MacDonald 1995). The common theme among the criticisms is that businesses pay a penalty for being market oriented (Atuahene-Gima et al. 2005).

Narver et al. (2004) argue that the disagreement about the relationship between market orientation and superior performance is due to a too narrow and incomplete understanding of market orientation, considering only the responsive dimension in which a business attempts to discover, to understand, and to satisfy the expressed needs of customers. Although Kohli and Jaworski (1990, p. 6) explicitly include "current and future customer needs" in their definition of market orientation, Narver et al. (2004, p. 335) state that the satisfaction of latent and future needs "has received some theoretical comment [...] but no systematic empirical analysis." In reviewing the items in Jaworski and Kohli's (1993) MARKOR scale and in Narver and Slater's (1990) MKTOR scale, they found no items that dealt either with latent or future

needs⁶. Thus, they conclude that market orientation is comprised of both a responsive and a proactive dimension, but that responsive market orientation towards customers' expressed needs is where "virtually all empirical analyses to date have focused" (Narver et al. 2004, p. 335). This inconsistency is meaningful for interpreting existing research results⁷.

A *responsive customer orientation* is associated with responsiveness to customers' expressed needs, defined as current needs that customers are aware of and actively request from firms (Slater and Narver 1998). However, it does not address customers' latent needs, defined as needs that are potentially important but are difficult for customers to articulate (Slater and Narver 1998), nor does it address customers' future needs due to a lack of forward-looking metrics (Zeithaml et al. 2006). Hence a *proactive customer orientation* is defined as the "capability to continuously probe customers' latent needs and uncover future needs" (Blocker et al. 2010, p. 2). The importance of being proactive customer oriented has been showed through qualitative studies (e.g., Flint et al. 2002; Tuli et al. 2007) and quantitative studies (e.g., Atuahene-Gima et al. 2005; Blocker et al. 2010; Narver et al. 2004).

While some scholars use the terms market orientation and customer orientation interchangeable with each other, both solely focusing on customers (e.g., Atuahene-Gima et al. 2005; Narver et al. 2004; Slater and Narver 1998, 1999), other scholars include customer orientation and competitor orientation in their understanding of market orientation and explicitly distinguish between focusing on customers and competitors (e.g., Homburg et al. 2007; Kirca et al. 2005; Kohli and Jaworski 1990; Narver and Slater 1990). Since this work focuses on customer needs rather than on a broader view of market orientation, the terms proactive customer orientation and responsive customer orientation will be used in the following to refer to the two dimensions of market orientation.

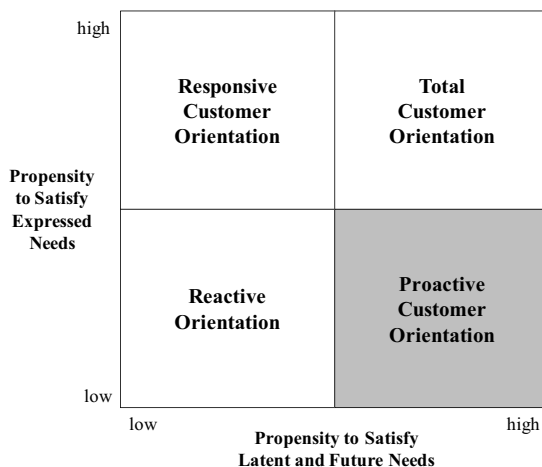
Furthermore, it is important to note that the two sub dimensions of customer orientation are not on opposite ends of a continuum but rather independent of each

⁶ It must be noted that Baker and Sinkula (2005) argue that a traditional measure of market orientation is capable of capturing customer-led as well as lead-the-customer behaviors. Given that the majority of scholars have a different position (e.g., Atuahene-Gima et al. 2005; Blocker et al. 2010; Kouropalatis, Hughes, and Morgan 2006; Li et al. 2008; Narver et al. 2004; Sandberg 2007; Tsai et al. 2008), a dual conceptualization of market orientation is employed.

⁷ In the following the terms proactive customer orientation and responsive customer orientation will be used to refer to the two dimensions of market orientation.

other (Atuahene-Gima et al. 2005; Ketchen et al. 2007; Slater and Mohr 2006). Specifically, responsive and proactive customer orientation are two possible approaches to the market within a two-by-two matrix created by juxtaposing firms' propensity to satisfy current needs with their propensity to satisfy latent and future needs (Ketchen et al. 2007). The resulting four approaches to customer needs are depicted in Figure 2–2 and include reactive orientation, responsive customer orientation, proactive customer orientation, and total customer orientation.

Figure 2–2: Four Approaches to Satisfy Customer Needs⁸



Firms with a *reactive orientation* are those that rate poorly in serving both current and future needs (Miles and Snow 1978). Consequently these firms have low customer satisfaction, customer loyalty, and customer retention. Many air travelers would argue that US Airways currently fit this category. This company fails to address the needs of customers and neither competes in quality nor in price. Not surprisingly, a Consumer Reports survey of 23,000 readers in June 2007 ranked US Airways as the worst airline for customer satisfaction (Consumer Reports 2007).

⁸ Based on Ketchen et al. (2007).

Responsive, customer-led firms are those that are skilled at serving expressed needs, but not at identifying latent needs and anticipating future needs (Slater and Narver 1998). An example is McDonalds' behavior over the last 10 years. McDonalds was very good at providing consumers with the convenient but unhealthy fast-food that they desired. However, McDonalds did not anticipate the shift towards healthy food and coffee shops that arose in the last years, and the result was a loss in market share that McDonalds has yet to recover. However once the needs were expressed and more obvious, McDonalds introduced McCafé and more healthy snacks.

Firms with a *proactive orientation* do not attempt to fulfill current needs. Instead, they look to the future and search for hidden needs by creating innovations that undermine current technologies or solutions (Christensen and Bower 1996). Apple began in this way when it pioneered a user-friendly personal computer, and the firm has continued to attack existing solutions through frame-breaking products such as the iPod and the iPad. For example, customers satisfied with a Sony Walkman might never imagine they would want an Apple iPod. Thus, examining future customer needs that the customers themselves may not be able to envision is very important for these firms.

Totally customer-oriented firms are those that address expressed as well as latent and future needs of customers (Slater and Narver 1999). Johnson & Johnson, Pfizer, Roche, and other major pharmaceutical companies offer examples of this category. Such firms not only provide therapies to cope with a wide array of health issues, but they also invest tremendous financial and intellectual resources into anticipating what therapies will be needed in the future (Ketchen et al. 2007). While a totally customer orientation possesses significant intuitive appeal, achieving and maintaining it is extremely difficult and cost intensive. Pharmaceutical firms are in an unusually advantageous position to do so because high entry barriers (e.g., patents) protect their profits. Yet many pharmaceutical companies have increasingly found it necessary to tap into the creative skills of biotechnology firms through acquisitions and strategic alliances in order to maintain their pipeline of new products (Powell, Koput, and Smith-Doerr 1996).

Hence, being proactive customer oriented and responsive customer oriented concurrently may not conflict or be a managerial paradox. Firms must carefully make strategic decisions about both their propensity to satisfy current needs and their propensity to satisfy future needs. While it is tempting to pursue a total customer orientation (i.e., being strong on both dimensions), such a move is very resource intensive (Atuahene-Gima et al. 2005; Ketchen et al. 2007).

2.3 Customer Orientation, Learning, and Market-Based Innovations

The conceptualization of customer orientation is closely associated with the organizational learning domain: Both relate to a firm's market information processing activities (e.g., Baker and Sinkula 2007; Kim and Atuahene Gima 2010; Lam et al. 2010). Following the resource-based view, customer orientation and organizational learning are both strategic resources that lead to strategic action, namely market-based innovations, and eventually to a competitive advantage and superior performance. Scholars within the field of organizational learning believe that a firm's learning orientation mediates the link between customer (market) orientation and the strategic action (e.g., Baker and Sinkula 1999, 2007; Hurley and Hult 1998). Moreover, organizational learning theory suggests that organizations engage in two forms of learning, exploratory and exploitative learning (Levinthal and March 1993; March 1991).

Based on March (1991), *exploratory market learning* involves the pursuit of new market information going beyond the current knowledge domain of a firm. The key advantages are enhanced diversity of a firm's market knowledgebase and opportunities for greater experimentation and innovation (Kim and Atuahene Gima 2010). Thus, exploratory market learning leads to exploratory market-based innovation, defined as rather radical innovations that meet the needs of emerging customers or markets (Benner and Tushman 2003). Responsive customer orientation that deals with understanding and satisfying customers' expressed needs is negatively related to exploratory market learning and exploratory market-based innovation (Christensen and Bower 1996; Morgan and Berthon 2008). Proactive customer orientation that deals with understanding and satisfying customers' latent and future needs is positively related to exploratory market learning and exploratory market-based innovation (Atuahene-Gima et al. 2005; Tsai et al. 2008).

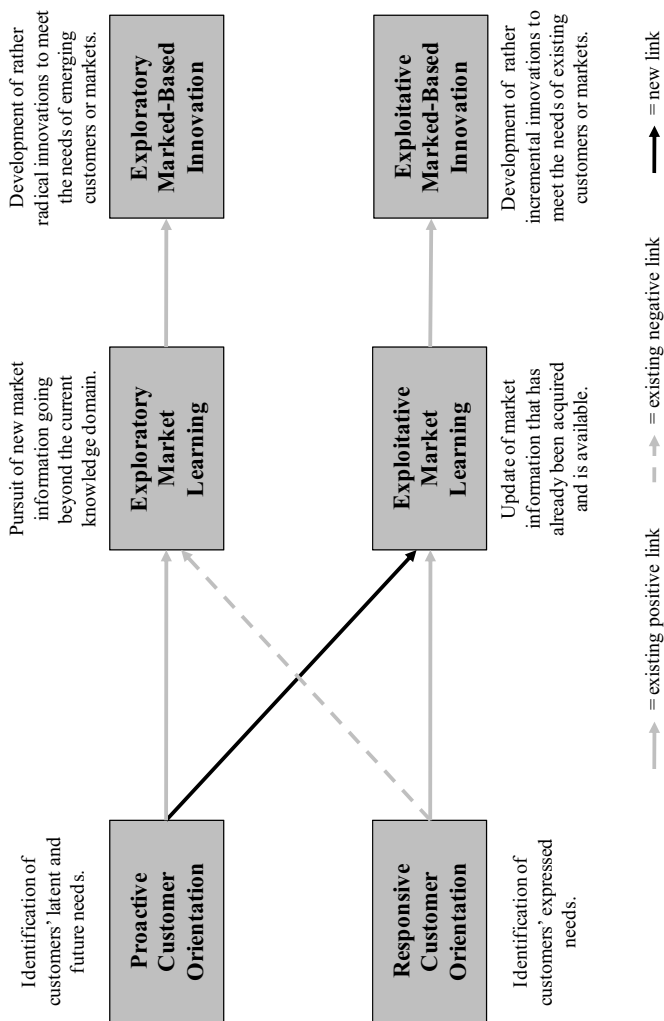
Exploitative market learning involves the update of market information that has already been acquired and is available for a firm (March 1991). The emphasis in exploitative learning is on specific information that provides deeper understanding of current customers to ensure the efficiency of organizational actions (Kim and Atuahene Gima 2010). Thus, exploitative market learning leads to exploitative market-based innovation, defined as rather incremental innovations that meet the needs of existing customers or markets (Benner and Tushman 2003). Responsive customer

orientation is positively related to exploitative market learning and exploitative market-based innovation (Atuahene-Gima et al. 2005; Tsai et al. 2008).

The relationship between proactive customer orientation and exploitation has not been resolved yet. Although a negative relationship has been assumed, no empirical support was found that proactive customer orientation is negatively related to exploitative market learning and exploitative market-based innovation (Li et al. 2008). Exploitative market-based innovations include, for example, improved existing designs, expanded existing products and services, or increased efficiency of existing distribution channels (Abernathy and Clark 1985). Insights from managerial practice show that a firm's capability to understand and satisfy customers' latent and future needs may indeed contribute to improve existing designs, products and services, and distribution channels (e.g., Kruthoff 2005; Müller 2008; van der Duin 2006). Thus, it is expected that proactive customer orientation is positively related to exploitative market learning and exploitative market-based innovation. Due to the missing positive link of proactive customer orientation to exploitative market-based innovation, it is also expected that the importance of proactive customer orientation has been underestimated by existing research.

The relationship between customer orientation, learning, and market-based innovations is displayed in Figure 2–3. However, this study focuses on proactive customer orientation and market-based innovations. Because many scholars exclude market learning from the customer orientation-performance link (e.g., Blocker et al. 2010; De Luca and Atuahene-Gima 2007; Homburg et al. 2007; Homburg, Wieseke, and Bornemann 2009; Lam et al. 2010; Morgan, Vorhies, and Mason 2009; Verhoef and Leeflang 2009), and due to the limited scope of this study, market learning will not be explicitly covered in the conceptual framework. Following Jansen, Van Den Bosch, and Volberda (2006), market learning is understood as a crucial task for market-based innovations, and is implicitly included in the definition and measurement of market-based innovations (compare to e.g., Andriopoulos and Lewis 2009; Gibson and Birkinshaw 2004; He and Wong 2004; Raisch and Birkinshaw 2008; Tushman and O'Reilly 1996). More specifically, exploratory market learning is included in exploratory market-based innovations, and exploitative market learning is included in exploitative market-based innovations.

Figure 2–3: Customer Orientation, Learning, and Market-Based Innovations



2.4 Research on Proactive Customer Orientation

2.4.1 Conceptual Research related to Proactive Customer Orientation

Although the terms proactive market orientation (Narver et al. 2004) and proactive customer orientation (Blocker et al. 2010) have been introduced to the literature within the last years, conceptual research on activities that can be entitled as proactive customer-oriented has a rather long tradition in marketing research. This research is reviewed in the following.

Ansoff (1980) was among the first that presented a systematic approach for early identification and fast response to important trends and events which impact customer behavior. Such issues may be either an opportunity to be grasped in the environment, or an unwelcome external threat, which imperils continuing success. Following the same logic, Day and Schoemaker (2006) and Ofek and Wathieu (2010) detail processes and activities of how to detect changes in customers' needs.

Hamel and Prahalad (1994) point out that organizations have to improve the quality of life of their customers by creating new products and services that deliver unexpected benefits to prosper in the future. To do so, organizations need to identify how the future will be different from today and understand what these differences will mean to customers. Thus, competing for the future requires the anticipation of customers' future needs and execution of appropriate offerings before competitors are even aware of the need.

Jaworski, Kohli, and Sahay (2000) introduce the strategy of driving markets, which implies influencing the structure of the market or the behaviors of market players in a direction that enhances the competitive position of an organization. They found three generic ways of changing the structure of a market, eliminating players in a market (deconstruction approach), building a new or modified set of players in a market (construction approach), and changing the functions performed by players (functional modification approach). All approaches have an impact on future customer behavior and change customer needs. Kumar, Scheer, and Kotler (2000) add that market driving companies gain a more sustainable competitive advantage by delivering a leap in customer value through a unique business system. While market driving strategies entail high risk, they also offer a firm the potential to revolutionize an industry and reap vast rewards.

Table 2-1: Conceptual Research related to Proactive Customer Orientation

Authors	Emphasis		Key Findings	Consequences for Internal Prerequisites	Consequences for Boundary Spanning Activities
	Construct	Definition			
Ansoff (1980)	Strategic Issue Management	<i>Strategic Issue Management</i> prevents surprises and responds to threats or opportunities.	External trends and events have an impact on customer behavior, and may be either an opportunity or an unwelcome external threat.	Firms should be able to respond to important trends and events timely.	Firms should use processes and activities to detect changes in customers' needs.
Hamel and Prahalad (1994)	Competing for the Future	<i>Competing for the Future</i> requires the anticipation of customers' future needs and execution of appropriate offerings before competitors are even aware of the need.	Organizations have to improve the quality of life of their customers by creating new products and services that deliver unexpected benefits to prosper in the future.	Firms should encourage everyone at every level of the organization to focus on foresight and to articulate their point of view about how the future will unfold.	Firms need to identify how the future will be different from today and understand what these differences will mean to customers.
Jaworski, Kohli, and Salay (2000); Kumar, Scheer, and Kotler (2000)	Driving Markets Strategy	<i>Driving Markets Strategy</i> implies influencing the structure of the market or the behaviors of market players in a direction that enhances the competitive position of an organization.	Deconstruction, construction, and functional modification approach change the structure of a market. All approaches have an impact on future customer behavior and change customer needs.	Market driving firms are organized around 'visionaries who see opportunity where others do not: An opportunity to fill latent, unmet needs or to offer an unprecedented level of customer value.	Customers are usually unable to conceptualize or readily visualize the benefits of revolutionary products, concepts, and technologies. Thus traditional market intelligence does not help.
Zeithaml, Bolton, Deighton, Kenningham, Lemon, and Petersen (2006)	Adaptive Foresight	<i>Adaptive Foresight</i> predicts the future by exploiting changes in the business environment and anticipating customer behavior.	Customer metrics used by firms today are predominantly rear-view mirrors reporting the past or dashboards reporting the present. Forward-looking customer metrics would allow firms to anticipate changes in customer needs and provide opportunities to increase the value of the customer base.	Firms must engage in future-open thinking, being willing to unlearn the idea that a single predictive future exists, and be able to hold the possibility of multiple futures simultaneously.	Firms must determine how far into the future they want to project, and they must engage in marketing research to understand and to develop the set of potential customer futures.
Flint, Woodruff, and Garinal (2002); Beverland, Ferrelly, and Woodlatch (2007); Iltis, Kohli, and Bharadwaj (2007)	Proactivity towards Customers' Desired Value Change	<i>Proactivity towards Customers' Desired Value Change</i> is defined as the capability to overcome the difference between new and previous customer desires, and to meet the changed needs.	The phenomenon extends well past the change itself into strategies customers use to motivate suppliers to meet their changed needs. Customers' value change provides a reason for customers to seek, maintain, or move away from relationships with suppliers.	To retain key customers, firms are forced to either anticipate what customers will value next or be ready to reset faster than competitors do to these changes.	Customers periodically change what they value. Therefore, firms cannot depend on what they currently know about customer value to hold into the future.
Blocker, Flint, Myers, and Slater (2010)	Proactive Customer Orientation	<i>Proactive Customer Orientation</i> refers to a provider's capability to continuously probe customers' latent needs and uncover future needs.	Customers easily distinguish between provider responsiveness and proactivity, and they express pleasure when talking about providers that proactively anticipate their needs.	Participants in a qualitative study characterize proactive customer orientation as a unique capability comprised of processes and actions that enable firms to identify their customer's latent and future needs, exercise strategic foresight, and enact various accommodations (e.g., new solutions, ideas, and collaborations).	

Zeithaml et al. (2006) contend that customer metrics used by firms today are predominantly rear-view mirrors reporting the past or dashboards reporting the present. They argue that firms have to develop adaptive foresight to predict the future by exploiting changes in the business environment and anticipating customer behavior. Furthermore they discuss possible forward-looking customer metrics that would allow firms to anticipate changes in customer needs and provide opportunities to increase the value of the customer base.

The importance of proactive customer oriented has been noticed especially in the business-to-business context. Flint et al. (2002) examine the nature of customers' desired value change and discover that this phenomenon typically occurs in an emotional context, as managers try to cope with feelings of tension. In advertising agency and client relationships, Beverland, Farrelly, and Woodhatch (2007) find that proactivity is a driver of client satisfaction, which thereby motivate clients to renew services, whereas a reactive stance merely reduces dissatisfaction. The findings from Tuli et al. (2007) suggest that business customers also want providers to proactively understand and address their latent and future needs as part of an ongoing, value-creating, relational process. The qualitative inquiry from Blocker et al. (2010) leads to similar insights: First, they find that customers easily distinguish between provider responsiveness and proactivity. Often customers cast proactivity in a strategic light since it involves collective understanding of their firm goals and strategies. Second, participants characterize proactive customer orientation as a unique capability comprised of provider processes and actions that enable providers to identify their firm's latent and future needs, exercise strategic foresight, and enact various accommodations (e.g., new solutions, ideas, and collaborations). Third, the participants express pleasure when talking about providers that proactively anticipate their needs.

Although these approaches shed light on several constructs related to proactive customer orientation from different perspectives, they all emphasize that a deep understanding of customer needs is an important prerequisite to be proactive customer-oriented. Furthermore all approaches include internal prerequisites and boundary spanning activities in their considerations:

1. *Deep Understanding of Customer Needs*: All kinds of proactive customer-oriented constructs include a deep understanding of customer needs that goes beyond responsive customer orientation. Examples include anticipation of

customers' future needs (*competing for the future*) and meeting changing needs (*proactivity towards customers' desired value change*).

2. *Internal Prerequisites*: The authors emphasize that firms have to organize the internal environment around being proactive customer-oriented to act upon new insights. Examples include organizing around visionaries (*driving markets strategy*) and engaging in future-open thinking (*adaptive foresight*).
3. *Boundary Spanning Activities*: Furthermore, boundary spanning activities have to be deployed to gain the necessary insights about customer needs. The authors emphasize the importance of innovative forms of market intelligence generation to identify changes in customers' needs (*strategic issue management*) and how the future will be different from today (*competing for the future*).

2.4.2 Empirical Studies on Proactive Customer Orientation

To date, only a few empirical studies have been conducted that investigate the performance implications of proactive customer orientation. All existing studies have been reviewed and are synthesized in Table 2-2. Narver et al. (2004) find a positive relationship of proactive customer orientation with new product success, controlling for innovation orientation and responsive market orientation. Atuahene-Gima et al. (2005) find a linear positive and an inverted U-Shape relationship between proactive customer orientation and new product program performance. Surprisingly, this function reaches its maximum when proactive customer orientation is smaller than 1 on a 1 to 5 scale. In other words, in the range of interest (1–5), this function is strictly decreasing and turns negative. Tsai et al. (2008) find inconclusive results and either a positive relationship or an inverted U-Shape relationship depending on technology turbulence and competitive intensity, thereby failing to incorporate both variables in one model. Li et al. (2008) find a positive relationship with radical innovations and no relationship with incremental innovation. Blocker et al. (2010) find a positive relationship of proactive customer orientation with customer value, both measured from a customer perspective. Summarizing these results lead to the first limitation of the existing studies:

1. *Contrary Performance Implications*: Existing studies find contrary results regarding the performance implications of proactive customer orientation: They are either positive (Blocker et al. 2010; Li et al. 2008 for radical innovations; Narver et al. 2004), inconclusive (Atuahene-Gima et al. 2005; Tsai et al. 2008), or show that proactive customer orientation does not affect performance (Li et al. 2008 for incremental innovations).

However, several additional limitations result from the existing studies and call for a more detailed examination of proactive customer orientation, its antecedents, contingency factors, and performance implications.

2. *Missing Link to Exploitative Innovation*: The missing relationship to exploitative (incremental) innovation (Li et al. 2008) appears to be controversial to other research on innovation management. Exploitative innovations are "product improvements and line extensions that are usually aimed at satisfying the needs of existing customers" (Atuahene-Gima 2005), and product improvements and line extensions may indeed target latent or future needs of existing customers (e.g., Baker and Sinkula 2007; Roberts and Amit 2003; Slater and Mohr 2006).
3. *Missing Consideration of Strategic Action*: Following the resource-based view, strategic resources have only a potential value, and realizing this potential requires strategic action (Ketchen et al. 2007). Apart from Li et al. (2008), all other authors miss to incorporate a measure for strategic action in their studies.
4. *Missing Antecedents*: None of the existing studies incorporate any antecedents for proactive customer orientation in their framework. Thus, it lacks insights of how managers may increase the proactive customer orientation of their firm.

In conclusion there are many gaps in the existing research that limit the validity of the studies. Besides missing relationships to central constructs, they are also related to a too narrow understanding of proactive customer orientation. Hence, I will elaborate on the construct and its content in the next section.

Table 2-2: Empirical Studies on Proactive Customer Orientation

Authors	Emphasis		Method	Research Scope		Key Findings
	Construct	Definition of Construct		Outcome	Antecedents	
Narver, Slater, and MacLachlan (2004)	Proactive Market Orientation	<i>Proactive Market Orientation</i> is the attempt to understand and to satisfy customers' latent needs.	Conceptual Development and Empirical Research (n = 120 Informants from 41 SBU of 25 Firms)	New Product Success (+)	-	Positive effect of proactive market orientation on new product success.
Atuahene-Gima, Slater, and Olson (2005)	Proactive Market Orientation	<i>Proactive Market Orientation</i> is concerned with discovering and satisfying the latent, unarticulated needs of customers through observation of customers' behavior in context to uncover new market opportunities.	Empirical Research (n = 175 Key Informants)	New Product Program Performance (-)	-	Inverted-U shaped effect of proactive market orientation on radical innovation; negative effect of the interaction between the two types of market orientation; negative moderating role of strategic mission rigidity; positive moderating role of learning orientation and marketing's functional power.
Tsai, Chou, and Kuo (2008)	Proactive Market Orientation	<i>Proactive Market Orientation</i> takes a firm beyond the scope of its experience and experimentation to discover and satisfy the latent, unarticulated needs of customers.	Empirical Research (n = 107 Key Informants)	New Product Performance (inconclusive)	-	The relationship between proactive market orientation and new product performance is an inverted U-shaped under a low level of competitive intensity and linear positive under a high level of competitive intensity; inconclusive results regarding technological turbulence.
Li, Lin, and Chu (2008)	Proactive Market Orientation	<i>Proactive Market Orientation</i> accentuates discovering and satisfying the latent and/or emerging needs of customers through undertaking market experiments to discover future needs or new market opportunities.	Empirical Research (n = 227 Key Informants)	Radical Innovations (+), Incremental Innovation (n.s.)	-	Proactive market orientation has more impact on radical innovations than responsive market orientation; the effects of proactive market orientation on radical innovations are negatively moderated by strategic mission rigidity and positively moderated by high learning orientation.
Blocher, Flint, Myers, and Slater (2010)	Proactive Customer Orientation	<i>Proactive Customer Orientation</i> refers to a provider's capability to continuously probe customers' latent needs and uncover future needs.	Conceptual Development and Empirical Research (n = 800 Customers)	Customer Value (+)	-	Proactive customer orientation positively affects customer value perceptions; proactive and responsive customer orientation enhance each other's productive capacity to facilitate value creation; higher effects for customers being served across multiple countries and customers being served by a transnational provider whose operations and personnel reside in a foreign country.

2.5 Proactive Customer Orientation: Insights from Managerial Practice

Following Narver et al. (2004, p. 336), *proactive market orientation* is the "attempt to understand and to satisfy customers' latent needs." In a quite similar way Blocker et al. (2010, p. 3) define *proactive customer orientation* as "a provider's capability to continuously probe customers' latent needs and uncover future needs." However neither these authors nor other scholars have detailed what exactly constitutes being proactive customer-oriented so far. Thus, it lacks insights regarding the underlying mechanism that allow a firm to probe customers' latent needs and uncover customers' future needs. The resulting question is: What does it mean to be proactive customer-oriented?

To answer this question I examined specialized departments that aim to identify latent and future needs. Examples for such departments include, among others, Moto City from Motorola, the DHL Innovation Center, the Telekom Laboratories, the Society and Technology Research Group from Daimler, and the Marketing Innovation Department from BMW. The specialized departments all differ in two main characteristics from other departments within the same firm: They have a specific work environment and they use specific methods.

Specific Work Environment: Most of the specialized departments are located downtown in cosmopolitan cities, far away from the companies' headquarters and traditional research and development facilities. As examples, Moto City from Motorola is located in downtown Chicago in the 26th floor of a skyscraper and not in the traditional research and development facilities in Libertyville (Weber et al. 2005), while the Society and Technology Research Group from Daimler is located at the futuristic Potsdamer Platz in Berlin, far away from the company's headquarter in Stuttgart (Büschemann 2009). This separation leads to a different work environment, or in other words climate, within the department.

The climate in these departments is affected by flat hierarchies, teamwork, interdisciplinary, openness towards external cooperations, and proactivity (Knipper 2009). For example consultants who advise companies on innovation labs recommend lofts, where high ceilings create a sense of openness. A lack of walls conveys the idea that communication is free-flowing, and an absence of private offices suggests that teamwork is the highest priority, as stated by Tom Kelley, general manager of IDEO in Palo Alto: "*We think everything worth doing is done by groups, not by individuals*" (Weber et al. 2005, p. 1). These circumstances should contribute to the objective of

probing latent needs and uncovering future needs of customers. However, to date no investigations of the underlying mechanism that contributes to a proactive customer-oriented climate exist. Thus this dimension will be further explored in the following.

Specific Methods: In addition to their work environment, the specialized departments use different methods of market research. Because these departments want to lead the market, not just solely give managers and customers what they think they want, they put aside normal practices, as stated by Gary R. Weiss, a senior director of Moto City: "*We did not want to be distracted by the normal inputs we get. It would not have allowed us to be as innovative*" (Weber et al. 2005, p. 2). Thus more innovative processes of market intelligence generation are employed.

Examples for these processes can be found within the specialized departments. The Society and Technology Research Group from Daimler used scenario analyses to uncover the future needs of customers regarding personal mobility (Büschemann 2009). The DHL Innovation Center used trend watching and scenario approaches to identify the trend towards climate neutrality, and developed "Go Green", a carbon dioxide neutral shipping of letters (Knipper 2009). The Marketing Innovation Department from BMW deployed widespread in-depth, qualitative interviews to gain insights about innovative distribution channels that go beyond customers' expressed needs of today. Employees of 3M work closely together with lead users and integrate them into the innovation processes (Von Hippel, Thomke, and Sonnack 1999). Although the methods that aim to probe latent needs and uncover future needs of customers have been already described solely (e.g., Chesbrough 2003; Day and Schoemaker 2004; Urban, Weinberg, and Hauser 1996; Von Hippel 1986; Zeithaml et al. 2006), to date no investigations exist that uses a comprehensive view of all proactive customer-oriented processes and connects the processes with the identified climate. Thus this dimension will also be detailed in the following.

A corresponding distinction between climate and processes can be found in the market orientation literature, which emphasizes organizational culture (Narver and Slater 1990; Slater and Narver 1994) and information processing (Jaworski and Kohli 1993; Kohli and Jaworski 1990) as antecedents of responsiveness to customers. Thus I refer to these research streams to detail the theoretical foundation of being proactive customer-oriented.

2.6 The Two Dimensions of Proactive Customer Orientation

Customer orientation is composed of two different basic categories: Behavioral and cultural characteristics (e.g., Homburg et al. 2007; Homburg and Pflesser 2000; Hult et al. 2005; Matsuno et al. 2005; Meehan et al. 2007). Whereas the behavioral perspective describes customer orientation in terms of specific behaviors related to, for example, generation and dissemination of market intelligence and responsiveness to it (Kohli and Jaworski 1990), the cultural perspective is related to more fundamental characteristics of an organization. As an example, Narver and Slater (1990, p. 21) describe market orientation as "the organizational culture ... that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance for the business." Thus activities for influencing an organization's customer orientation fall into two categories (Homburg et al. 2007): They can aim to change an organization's cultural characteristics, defined as culture or the affective organizational system, and they can focus on improving an organization's information processing, defined as processes or the cognitive organizational system. However affective systems and cognitive systems are both important antecedents of responsiveness to customer needs (e.g., Hult et al. 2005; Matsuno et al. 2005).

Following the argumentation for responsive customer orientation and the evidences from specialized departments, I expect that proactive customer orientation may be separated into two dimensions. The more detailed examination of proactive customer orientation inhibits considerable advantages. Change processes like building a pronounced customer orientation absorb many resources, including managerial time, energy and costs (e.g., Day 1999a; Gebhardt et al. 2006; Lam et al. 2010). Managers are often forced to focus their efforts either on changes within the organization or on changes regarding boundary spanning processes (Homburg et al. 2007). Thus it is important for managers attempting to increase their firm's proactiveness to customers' latent and future needs to know under which circumstances the climate is a more important driver than processes, or vice versa. A lack of such knowledge is likely to lead to significant managerial mistakes regarding resource allocation in change processes.

Proactive Customer-Oriented Climate: In the context of this research, the proactive customer orientation of the affective system expressed in the work environment deserves special attention. While organizational culture describes "why things happen

the way they do", organizational climate describe "what happens around here" (Deshpande, Farley, and Webster 1993, p. 24). Organizational climate may be defined as the internal environment, in other words the work environment, of a business unit or firm which influences behavior and can be described in terms of attributes (Deshpande and Farley 2004; James and Jones 1974). Although culture and climate are related, climate often proves easier to assess and change. Thus I define *proactive customer-oriented climate* as *the extent to which attention to customers' latent and future needs is anchored within an organization*. Trice and Beyer (1993) specify that climate is emotionally charged because its values and beliefs help organizational members overcome the anxiety that is connected to environmental uncertainty. In addition, values and norms that determine a specific climate may become a defining property of a group, permitting the group to differentiate itself from other groups (Homburg and Pflesser 2000; Schein 1984; Smircich 1983). As a consequence, organizational members become strongly attached to the particular group, and their behavior is adjusted towards the climate. Therefore proactive customer-oriented climate represents the affective system that leads to a pronounced proactive customer orientation.

Furthermore the affective system can be regarded as a mechanism that allows for decision making within organizations without intensive information processing. This is important because it is impossible for organizations and individuals to process all available information adequately with regard to a given problem (Homburg et al. 2007). The problem of information overload is reflected in the literature on the limits of organizational information processing (Eppler and Mengis 2004; O'Reilly 1980). Values and norms embedded in the climate help companies and individuals cope with the large amount of information available, for instant information about customers' needs. Thus a proactive customer-oriented climate is expected to contribute to probing customers' latent needs and uncovering future needs.

Proactive Customer Oriented Processes: In addition, the proactive customer orientation of the cognitive system deserves special attention. I define *proactive customer-oriented processes* as *the extent to which information processes within an organization aim to probe latent needs and uncover future needs of customers*. In the marketing literature, organizational information processing has been described as a series of consecutive processes that deal with the generation, dissemination, analysis, and storage of information (Day 1994; Moorman 1995; Sinkula 1994). However the emphasis of proactive customer orientation is on the identification of latent and future needs. This may be best described by obtaining a specific type of market knowledge

(Atuahene-Gima 2005; De Luca and Atuahene-Gima 2007). Organizational members are motivated to act on insights from organizational information processing when they perceive it as having cognitive value (Hansen and Haas 2001). Therefore proactive customer-oriented processes represent the cognitive system that leads to a pronounced proactive customer orientation.

The cognitive system is critical due to acceleration of change, the explosion of available market data, and the importance of anticipatory action (Day 1994). Moreover information about customers is the source of stimulation for the firm's knowledge (Nonaka 1994) and the driver of a market-oriented strategy (Day and Nedungadi 1994). This implies that a firm that correctly identifies information about customers is deemed to be knowledgeable about latent and future needs. Thus proactive customer-oriented processes are expected to contribute to probing customers' latent needs and uncovering future needs.

2.7 Conceptual Framework

Figure 2–4 displays the conceptual framework of this dissertation. The framework seeks to explain *how*, *why*, and *when* proactive customer orientation lead to superior performance. More specifically, the model proposes that a *proactive customer-oriented climate* and *proactive customer-oriented processes* are strategic resources that lead to strategic actions, manifested in *exploratory and exploitative market-based innovations*. Innovations that match customers' latent and future needs will then lead to increased customer value (competitive advantage) and eventually to superior performance.

Customer value represents the trade-off between benefits and sacrifices that stem from a firm's product, service, and relationship resources which customers believe are facilitating their own goals (Woodruff 1997). However, customer value perceptions are a moving target because customers invariably change their expectations (Day 2000; Flint et al. 2002; Parasuraman 1997). This dynamic aspect can critically challenge firms. Thus, exploratory and exploitative market-based innovations are crucial to provide high customer value.

Customer value perceptions of customers lead to customer satisfaction, which results in loyalty, retention, and positive word of mouth, and eventually contributes to

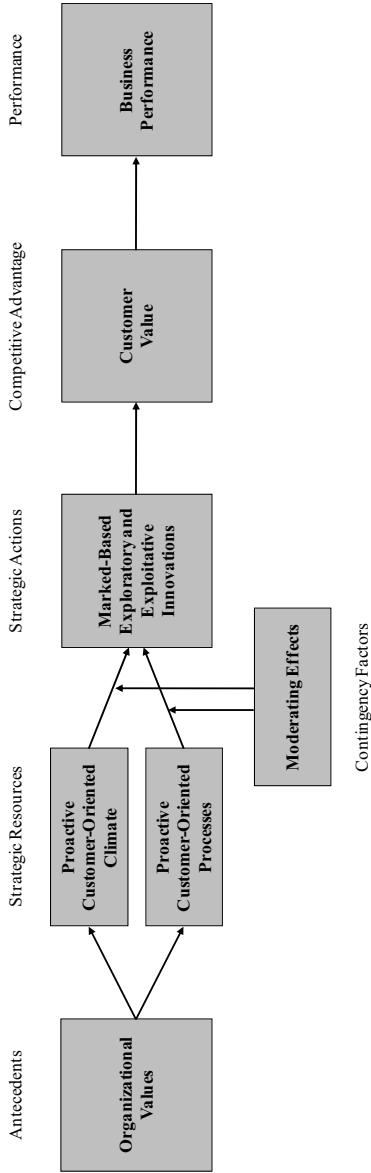
superior *business performance* (e.g., Anderson, Fornell, and Lehmann 1994; Belz and Bieger 2006; Fornell, Mithas, Morgeson, and Krishnan 2006; Slater and Narver 1994).

Furthermore important antecedents for the two dimensions of proactive customer orientation will be examined. Following the resource-based view, firms should primarily focus on their internal resources and capabilities rather than on the environment (Barney 1991; Wernerfelt 1984). Thus, *organizational values* that support proactive customer orientation are incorporated in the framework. To date, it lacks insights about mutual values within organizations that are important to engage employees in a proactive customer-oriented climate and proactive customer-oriented processes (Blocker et al. 2010).

Moreover *contingency factors* that moderate the impact of proactive customer-oriented climate and proactive customer-oriented processes on exploratory and exploitative market-based innovations are include in the framework. Strategic resources have only a potential value for firms, and benefiting from valuable resources may depend on their interplay with other resources (Barney 2001; Danneels 2008). Consequently, the focus of this study is on internal contingency factors.

Before the framework is translated into a testable structure of hypotheses in Chapter 4, new scales reflecting a proactive customer-oriented climate and proactive customer-oriented processes will be developed in Chapter 3.

Figure 2–4: Conceptual Framework



3 Scale Development

The primary goal of scale development is to create a valid measure of an underlying construct. The scale development process of proactive customer-oriented climate and proactive customer-oriented processes follows the guidelines of Churchill (1979), Gerbing and Anderson (1988), and DeVellis (2003) and is based on the conceptualizing of the two constructs in Chapter 2.5. First I point out some limitations of existing scales and explain the need to develop new scales for climate and processes. Then the generation of an item pool is described, including a meta-analysis of in-depth studies related to proactive customer orientation, interviews and workshops with managers, and expert judgments. Based on a sample of 420 key informants from various industries, I examine reliability, validity, and generalizability of the new scales.

3.1 Limitations of Existing Scales

Narver et al. (2004) were the first that developed a scale for proactive market orientation. The scale has been used widely in marketing research and has sparked substantial interest in this important topic (Atuahene-Gima, Slater, and Olson 2005; Li, Lin, and Chu 2008; Tsai, Chou, and Kuo 2008). However, the measure does have some limitations that reduce its applicability and may account for some limitations of existing studies (compare to Chapter 2.3.2). One shortcoming of the scale is that it contains one item that addresses consequences of proactive customer orientation (item 3): "*We incorporate solutions to unarticulated customer needs in our new products and services.*" Another item contains rather an antecedent of being proactive customer-oriented, the willingness to cannibalize: "*We innovate even at the risk of making our own products obsolete*" (item 5). Furthermore item 1 is only applicable in a B2B setting: "*We help our customers anticipate developments in their markets.*" Moreover the scale does not contain any items tapping the affective dimension of proactive customer orientation, as it focuses only on cognitive processes. For example, item 8 states: "*We extrapolate key trends to gain insight into what users in a current market will need in the future.*" Faced with recent developments towards a two dimensional view of customer orientation including an affective and a cognitive dimension

(Homburg et al. 2007; Hult et al. 2005), the scale appears to have a too narrow understanding of proactive customer orientation.

Blocker et al. (2010) develop a scale to measure proactive customer orientation from a customer perspective. This scale is output-oriented with an emphasis on responsiveness rather than on orientation. Following the resource-based view, it measures the strategic action and not the strategic resource. For example, item 3 states: "*[The company] successfully anticipates changes in our needs.*" The scale also contains items that are only applicable in a B2B setting, for example item 2: "*[The company] seems to spend time studying changes in our business environment so they can exercise better foresight about our future needs.*" More importantly, the whole scale describes proactive customer orientation from a customer point of view while the present study aims to examine internal aspects, namely proactive customer-oriented climate and proactive customer-oriented processes, and therefore relies on informants within the organization.

In sum, although both scales make a very valuable contribution to research on proactive customer orientation, they appear inappropriate for the goals of this study. Thus new scales for proactive customer-oriented climate and proactive customer-oriented processes will be developed in the following sections.

3.2 Data Sources of the Qualitative Inquiry

Qualitative methods were applied to detail the two dimensions of proactive customer orientation, and the resulting scale development process is based on various sources of data to ensure closeness to reality (Dyllick and Tomczak 2007; Tomczak 1992). More specifically, three stages of qualitative research were conducted, field interviews, workshops with managers, and a content analysis of studies that examine related constructs. A discussion with other marketing researchers and practical experts validated the findings.

Expert Interviews: To gain rich insights, in-depth half-structured interviews with experts were chosen. Such a procedure allows to focus on a certain issue without constraining the interviewee (Mayring 2002). To collect the data, 15 marketing, sales and innovation managers of leading multinational consumer and industrial goods companies were contacted and asked to participate in this study. The experts were

chosen because of their in-depth, long-time expertise at the customer interface (i.e., expertise in identifying customer needs). All interviewees work at a managing level which ensures that they are valid key informants regarding strategic as well as operational issues. In total, 11 managers agreed to support this research. Eight expert interviews were conducted personally or by phone from February to June 2009 (see Appendix for sample and interview guidelines). In the last interview, no additional new insights were obtained. According to Flanagan (1954) enough interviews were done at this point and the initial data collection can be closed. Every single interview was analyzed and individual statements were compared to each other (Eisenhardt 1989). The main findings are summarized below.

1. Many firms lack a *systematic approach* to latent and future needs of their customers. Contrary to very innovative firms (e.g., Telekom with the Telekom Labs, BMW Group with the Marketing Innovation Department), many interview partners stated that they do not know how to systematically probe latent and uncover future needs, and that their firm lacks processes and guidelines to do so. These findings are supported by the study of Blocker et al. (2010).
2. The interviewed experts named different characteristics associated with *climate and processes* that they assume to result in being proactive customer-oriented. They stated that the awareness for those needs within the department is important, that employees need guidance towards becoming proactive customer-oriented, that an open and entrepreneurial atmosphere support this, and that firms have to provide the opportunities to behave proactive customer-oriented. Furthermore, they added that certain methods, such as customer integration, in-deep qualitative inquiries, scanning the environment, and future analyses, help to probe latent needs and uncover future needs.
3. To be successful in dealing with latent and future needs, the interviewed experts highlighted that certain *organizational characteristics* may help to overcome internal barriers, motivate employees, and maintain the necessary resources. This includes enough attention towards future developments, the willingness to replace existing products, services, and strategies, an understanding that a certain amount of innovative and new ideas may fail, and a constructive nature of solving problems (see Chapter 4.2).

Managerial Workshops: Additionally, the Institute of Marketing at the University of St. Gallen maintains ongoing cooperations with BMW Group and Phonak GmbH including regular workshops, meetings, scenario developments, and trend updates. The author participated or supervised various workshops that were targeted to identify latent or future needs of customers (see Appendix for details). Examples include, among others, trend updates and scenario workshops with the Marketing Innovation Department of BMW and workshops related to innovative distribution channels and future customer needs with Phonak. Insights from these cooperations are incorporated in construct development and the item generation process.

Within the cooperations, the author experienced that the awareness for latent and future needs is important for successfully conducting a proactive customer-oriented project and that employees need to be guided and motivated by their supervisors to become proactive customer-oriented. Furthermore, projects tend to be more successful in an open and entrepreneurial atmosphere, preferably supported by an appropriate infrastructure. The methods used to probe latent needs and uncover future needs include customer integration and in-deep qualitative inquiries as well as scanning the environment and future analyses. Moreover, the organizational values mentioned by the experts tended to have a negative impact on project success. A missing attention towards future developments, a missing willingness to replace existing investments, a missing tolerance for failures, and non-constructive conflicts within the project team were all detrimental to overcome internal barriers, motivate employees, and maintain the necessary resources.

Analysis of In-Depth Studies on Related Constructs: To detail the information from the expert interviews, a meta-analysis of studies investigating constructs related to proactive customer orientation was conducted. Since all eight studies are doctoral dissertations, they allow in-depth insights into their study design and findings. The unit of analysis, methods, emphasis, data collection, and key findings of all studies are displayed in Table 3-1. Incidents related to proactive customer-oriented climate and proactive customer-oriented processes were collected and then grouped into distinct categories based on the expert interviews. After assessing the incidents to these categories, two other marketing researchers re-assigned the incidents. The same eight categories emerge, providing evidence that the higher-order dimensions, proactive customer-oriented climate and proactive customer-oriented processes, may each be grouped into four categories.

-
- Proactive customer-oriented climate can be grouped into the following four sub-categories: (1) *Awareness* for proactive customer orientation, (2) *guidance* towards proactive customer-oriented behavior, (3) proactive customer-oriented *atmosphere*, and (4) proactive customer-oriented *infrastructure*.
 - Proactive customer-oriented processes can be grouped into the following four sub-categories: (1) *Customer integration*, (2) in-depth *qualitative methods*, (3) *trend watching*, and (4) *scenario approaches*.

Face Validity: The construct development of proactive customer orientation had been discussed with other marketing researchers and practical experts to achieve face validity. This included the presentation and discussion of preliminary findings at the 23rd EMAC Doctoral Colloquium in Copenhagen (2010), at the 32nd Marketing Science Conference in Cologne (2010), and at a research meeting of the Marketing and Strategy Group of Cardiff Business School in September 2010. More specifically, the general model of proactive customer orientation including two dimension and eight categories found support. However, the eight sub-categories have been slightly adjusted due to the valuable comments of the participating researchers.

Table 3-1: In-Depth Studies related to Proactive Customer Orientation

Author and Title	Unit of Analysis and Methods	Emphases	Data collection	PCO Climate	Key Findings	PCO Processes
Knutshoff (2005): Der Umgang mit Trends im Marketing	Marketing Innovation Department, BMW Group (Grounded Theory, In-Depth Single Case Study)	<i>Exposure to Trends in Marketing</i> : How does BMW address trends that have an impact on prospective customer needs?	Field observations, 49 workshops, 14 in-depth expert interviews, participation at 7 conferences and events concerning trend extrapolation, informal discussions and interviews, internal documents of BMW Group.	Networking of innovative employees; sharing of new knowledge through discussions and networking platforms; intense collaboration with partners; general acceptance and basic trust in research and development efforts.	Searching and monitoring of trends as central processes to identify future customer needs; "analyzing what really changes" is the key challenge.	
McCarroll (2005): Market Foresight Determinants and New Product Outcome	259 Key Informants (Exploratory and Quantitative Research)	<i>Market Foresight</i> : How can firms increase their ability to anticipate events and trends in future markets?	Widespread literature analysis; quantitative data collection.	Scanning responsibility; future market focus; learning orientation; interdepartmental connectedness.	Active scanning; lead user collaboration; market experiments.	
Wecht (2005): Frühe Kundenintegration in den Innovationsprozess	Bayer Material Sciences, EADS Astrom, Hilti, Diamond Systems, Zumbach Staff (Exploratory, Multiple Case Study)	<i>Customer Integration</i> : How can customers be integrated into the early phases of the innovation process?	Personal interviews with managers from all 4 firms; additional 45 interviews with expert from other firms.	Open innovation culture; role model behavior of top management; fighting against the not-invented-here syndrome.	Customer integration; empathic design; lead user.	
Steinhoff (2006): Kundenorientierung bei hochgradigen Innovationen	"InnovationsKompass"; 103 Innovation Projects from different firms (Exploratory, Qualitative and Quantitative Research)	<i>Customer Orientation</i> : How does customer orientation effect radical innovations?	Widespread literature analysis; interviews with managers; quantitative data collection.	Generative learning orientation; possibilities for "freeing minds"; extensive internal and external communication; future orientation.	Qualitative explorative methods; future analysis; empathic design; information acceleration; lead user; probe and learn; umbrella method.	
Van der Duin (2006): Qualitative Futures Research for Innovation	KPN Research, Syntens NT, Daimler, TNO Industry, Pinkroede, Philips Medical Systems (Exploratory, Multiple Case Study)	<i>Matching Innovation and Future Research</i> : How can future research be used in innovation processes?	Personal interviews and group discussions within all 6 firms (18 - 28 interviewees / participants); internal documents.	Oppositional; Lack of integration of future research and innovation; emphasis on short-term customer demand; lack of collaboration within firms regarding future-related issues.	Future research inspires innovation; scenario approaches and not dismissing are linked to radical innovation; trend analysis to incremental innovation; oppositional; Lack of process skills.	
Stolper (2007): Market-Driving-Konzept	Wilhelm AG, SWYX, Solutions AG (Confirmatory Multiple Case Study)	<i>Exploring Market Driving Behavior</i> : Which factors lead to the adoption of a market-driving approach?	11 in-depth interviews, secondary data sources.	Mutual vision; open idea meetings to boost creativity and entrepreneurial thinking; sensibility for changes in the environment.		
Beinert (2008): Innovativität des Marketing	Tulaho, Dove, Bilburger, Metro, additional anonymous companies (Exploratory, Multiple Case Study)	<i>Dynamic Trend Competencies</i> : How to identify, judge, and address future trends?	28 expert interviews with managers from various firms.	Discussion of upcoming trends; early warning system; general optimistic essence; entrepreneurs' interactivity; a atmosphere enhances interactivity and reduces constraints.	Competencies of trend recognition, of trend evaluation, trend transformation, and of implementing new concepts with cooperations and with newly-created capabilities.	
Müller (2008): Strategic Foresight - Prozesse strategischer Trend- und Zukunftsforschung im Unternehmen	Society and Technology Research Group, Daimler AG, Corporate Research & Innovation, TUI, Strategic Planning & Controlling, BASF, Macro Trend Team, Deutsche Bank Research, Corporate Development, Hilti AG (Exploratory, Multiple Case Study)	<i>Strategic Foresight</i> : How can firms anticipate future developments and their impact on the market?	18 in-depth expert interviews with leading managers of the foresight divisions, quantitative survey with 40 multinational companies, 5 case studies, internal documents of the participating firms.	"Future Labboratory" for creative experiments; social science think tank; promoter of innovation and change; challenge of current beliefs; flexibility; individual autonomy; experimental friendly atmosphere; interaction orientation.	Trend analysis; scenario techniques; modeling of future markets; creativity methods; wildcards; roadmapping; gaming; Delphi studies; technological forecasting; system dynamics; strategic analyses.	

Table 3-2: Construct Development of Proactive Customer Orientation

Dimension	Definition / Content	Examples	Selected References
Proactive Customer-Oriented Climate: <i>The extent to which attention to customers' latent and future needs is lived within an organization.</i>			
Awareness	Defined as the awareness within an organization that latent and future needs are important.	<ul style="list-style-type: none"> ▪ Formal Meetings ▪ Informal Discussions ▪ Avoiding "Killer Phrases" 	e.g., Kruthoff 2005; Müller 2008; Schögel, Koch, Kruthoff, Borbe, and Kumar 2003; Slater and Narver 1998; Steinhoff 2006; van der Duin 2006.
Guidance	Defined as the guidance of employees towards being proactive customer-oriented.	<ul style="list-style-type: none"> ▪ Stories and Anecdotes ▪ Unwritten Laws ▪ Entrepreneurial Myths 	e.g., Hamel and Prahalad 1994; Homburg and Pflesser 2000; Müller 2008; Mumford and Hunter 2005; Steinhoff 2006; Wecht 2005.
Atmosphere	Defined as an atmosphere that reduces organizational constraints and support new ways of serving customers.	<ul style="list-style-type: none"> ▪ Open Work Environment ▪ Informal Information Exchange ▪ Use of External Facilities 	e.g., Hamel and Prahalad 1994; Müller 2008; Steinhoff 2006; van der Duin 2006; Weber, Holmes, and Palmeri 2005.
Infrastructure	Defined as an infrastructure that motivates employees, facilitates exchange, and provides direction.	<ul style="list-style-type: none"> ▪ Awards or Honors ▪ Central Contact Point ▪ Early Warning System 	e.g., Beinert 2008; Jones and Tollin 2009; Kruthoff 2005; Müller 2008; Schögel et al. 2003; van der Duin 2006; Weber et al. 2005.
Proactive Customer-Oriented Processes: <i>The extent of information processes that aim to probe latent needs and uncover future needs of customers.</i>			
Customer Integration	Includes methods where customer are integrated into innovation or development processes of the firm.	<ul style="list-style-type: none"> ▪ Lead User Cooperations ▪ Open Innovation ▪ Empathic Design 	e.g., Chesbrough 2003; Chesbrough and Garman 2009; Herstatt and Von Hippel 1992; Leonard and Rayport 1999; Von Hippel 1986.
Qualitative Methods	Includes methods where organizations investigate in-depth the underlying motivations and desires of customers.	<ul style="list-style-type: none"> ▪ Delphi Method ▪ Collaboration with Communities ▪ Probe & Learn 	e.g., Magidson and Brandyberry 2001; Samii 1996; Ulwick 2002; Urban and Hauser 2004; Urban, Weinberg, and Hauser 1996; Zaltman 1997.
Trend Watching	Includes the constant monitoring of technological trends and changes in the behavior of customers.	<ul style="list-style-type: none"> ▪ Environmental Scanning ▪ Weak Signals ▪ Technological Trends 	e.g., Ansoff 1975; Day and Schoemaker 2006; Kruthoff 2005; Müller 2008; Ofek and Wathieu 2010; Schögel 2005.
Scenario Approaches	Includes generation of a set of potential customer futures and determining their impact on an organization's offerings.	<ul style="list-style-type: none"> ▪ Roadmapping ▪ Umbrella Method ▪ Wildcards / Black Swans 	e.g., Droge, Calantone, and Harmancioglu 2008; Hamel and Prahalad 1994; Schögel and Sulser 2007; Zeithaml et al. 2006.

3.3 Definition of Constructs

3.3.1 Proactive Customer-Oriented Climate

Proactive customer orientation has been defined as the capability to continuously probe latent needs and uncover future needs of customers, and consists of two dimensions, proactive customer-oriented climate and proactive customer-oriented processes (see Table 3-2). Proactive customer-oriented climate is defined as *the extent to which attention to customers' latent and future needs is lived within an organization*, and can be grouped into the following four categories:

- *Awareness for Proactive Customer Orientation*: The first task for top management is to create awareness that latent and future needs are important. Measures to raise awareness include, among others, discussions about the future of customers and their potential needs. Comparable to the crucial role of top management support for market orientation (Jaworski and Kohli 1993; Kirca et al. 2005), the importance of latent and future needs must be established within organizations.
- *Guidance towards Proactive Customer-Oriented Behavior*: Subsequently, employees need to be guided towards being proactive customer-oriented. Stories, anecdotes, and myths within an organization may point out the importance of latent and future needs (Homburg and Pflesser 2000; Schein 1984). Examples include stories about the exceptional and pronounced fulfillment of hidden customer needs, unwritten laws and hidden rules concerning exploratory customer learning, entrepreneurial myths that point out the importance of satisfying future needs, and anecdotes from past events as examples for future customer orientation.
- *Proactive Customer-Oriented Atmosphere*: An atmosphere that reduces organizational constraints and support new ways of serving customers supports the proactive customer orientation of employees. The importance of the atmosphere for innovativeness (Deshpande et al. 1993; Hult, Hurley, and Knight 2004) and market orientation (Gebhardt et al. 2006; Homburg and Pflesser 2000) is widely acknowledged in the literature. Examples for proactive customer-oriented atmosphere include workplaces that are open and out of the ordinary, meeting rooms and offices that support communication

and exchange, and areas where information can be exchanged informally across hierarchies.

- *Proactive Customer-Oriented Infrastructure*: Furthermore the infrastructure within an organization should motivate employees, facilitate exchange, and provide direction towards proactive customer orientation. Examples include dedicated contact points to collect insights about future needs, awarding employees that successfully identify needs before they were articulated by customers, and an early warning system to detect changes in the market. Such an infrastructure is closely related to organizational arrangements and rituals (Homburg and Pflesser 2000; Trice and Beyer 1993).

3.3.2 Proactive Customer-Oriented Processes

Proactive customer-oriented processes are defined as *the extent of information processes that aim to probe latent needs and uncover future needs of customers*, and can be grouped into the following four categories:

- *Customer Integration*: Methods where customers are integrated into innovation or development processes of the firm are subsumed as customer integration. Examples include the integration of customers into early innovation stages to learn about their needs (Chesbrough, Vanhaverbeke, and West 2006), incorporating feelings and preferences of customer during product development (Leonard and Rayport 1999), accompanying customers in their daily life to learn about the use of products (Gouillart and Sturdivant 1994), and working closely together with lead users (Von Hippel 1986).
- *In-Depth Qualitative Methods*: Methods to investigate the underlying motivations and desires of customers are subsumed as in-depth qualitative methods. Examples include conducting future-oriented focus groups with experts (Ulwick 2005), projective methods to gain insights into customers' latent needs (Zaltman 1997), conducting virtual tests of concepts and products (Urban and Hauser 2004), and carrying out market tests with prototypes (Hamel and Prahalad 1991).
- *Trend Watching*: Methods to constantly monitor technological trends and changes in the behavior of customers are subsumed as trend watching. Examples include peripheral vision capability (Day and Schoemaker 2004),

strategic issue management (Ansoff 1980), and scanning of relevant trends (Ofek and Wathieu 2010; Schögel 2005).

- *Scenario Approaches*: Methods to generate a set of potential customer futures and determine their impact on the organization are subsumed as scenario approaches. Examples include scenario management techniques (Schögel and Sulser 2007; Zeithaml et al. 2006), identifying new markets with the umbrella method (Hamel and Prahalad 1994), determining the impact of unforeseeable events (Taleb 2008), and analyzing future developments with roadmapping techniques (Droge, Calantone, and Harmancioglu 2008).

3.4 Generation of Item Pool

Initially, lists of 31 potential items for proactive customer-oriented climate and 23 potential items for proactive customer-oriented processes were developed based on a review of over 60 research articles in the field of customer orientation, over 30 popular press articles on the same topic, insights from the qualitative research, and brainstorming exercises using the construct definition and its two dimensions. The existing scale of proactive market orientation (Narver et al. 2004) was adopted in this context. The conventional method of back translation was used to translate existing items from English into German. As item wording needs careful attention, exceptionally lengthy items, items that are difficult to read, double barreled items, and ambiguous pronoun references were avoided (DeVellis 2003).

In the next step, expert judgments were obtained to access content and face validity. The item pool was given to nine marketing management researchers for review; all experts with psychometric and scale development expertise. Marketing experts were provided with a definition of proactive customer-oriented climate and proactive customer-oriented processes, and were asked to carefully read each item and rate it with regard to how well they believe it represents the relating construct. Experts rated each item on a nine-point Likert scale, anchored with "Does not tap construct = 1" and "Taps construct = 9". Space was provided for experts to comment further about particular items or supplement additional items.

Table 3-3: Revised Item Pool**Items for a Proactive Customer-Oriented Climate**

- aw₁ We discuss a lot about the future of our customers.
- aw₂ We continuously talk about potential customer needs.
- aw₃ We are aware that customers' hidden and future needs are important.
- aw₄ We avoid killer phrases while discussing changing needs and developments of our customers.
- gu₁ We exchange stories about exceptional and pronounced fulfillment of hidden customer needs.
- gu₂ We share unwritten laws and hidden rules concerning exploratory customer learning.
- gu₃ Entrepreneurial myths point out the importance of satisfying future needs.
- gu₄ We use anecdotes from past events as examples for future customers' orientation.
- at₁ Our workplaces are open and out of the ordinary to support new ways of serving customers.
- at₂ Our atmosphere enhances interactivity and reduces constraints when we meet customers.
- at₃ Customer meeting rooms and offices are built in a style that supports communication and exchange.
- at₄ We regularly meet in facilities that are related to the life or environment of our customers.
- at₅ Meeting and discussion areas (e.g., cafeterias) exist where information can be exchanged informally across hierarchies.
- at₆ We sometimes meet in external facilities to refrain from day-to-day tasks.
- in₁ We have a contact point to collect insights about future needs of our customers.
- in₂ We discuss upcoming environmental changes all together in our business unit.
- in₃ We award employees that successfully identify needs before they were articulated by customers.
- in₄ We use an early warning system to detect changes in our market.

Items for Proactive Customer-Oriented Processes

- ci₁ We integrate customers into early innovation stages to learn about their needs.
- ci₂ We incorporate feelings and preferences of our customers during product development.
- ci₃ We accompany customers in their daily life to learn about the use of our products.
- ci₄ We work closely together with lead users who try to recognize customer needs months or even years before the majority of the market recognizes them.
- ci₅ Our innovation processes are open towards customers.
- qm₁ We conduct future-oriented focus groups with experts.
- qm₂ Projective methods are used to gain insights into customers' latent needs.
- qm₃ We observe and participate in communities of our customers.
- qm₄ We conduct virtual tests of concepts and products.
- qm₅ We systematically forecast possible futures with panels of experts.
- qm₆ We carry out market tests with prototypes.
- tw₁ We monitor trends in society that signal changes in our customers' needs.
- tw₂ We scan technological trends that may impact customer needs.
- sa₁ Scenario management techniques are used to gain insights about the future.
- sa₂ We identify new markets with the umbrella method.
- sa₃ We are engaged in determining the impact of unforeseeable events.
- sa₄ We use roadmapping techniques to analyses future developments.

PCO Climate: aw = awareness; gu = guidance; at = atmosphere; in = infrastructure

PCO Processes: ci = customer integration; qm = qualitative methods; tw = trend watching; sa = scenario approaches

Results of the expert review led to several items being dropped from the initial pool, including items with a mean and median below the scale midpoint and items identified by written comment as inappropriate to the measures. The resulting item pool was then discussed with two marketing innovation managers of a leading automotive manufacturer, two marketing managers, one from a consumer goods and one from a business-to-business company, and one sales manager from a different business-to-business company. Based on discussions about the measurement scales, some items were dropped and added. The final item pool, emerging from 18 items for proactive customer-oriented climate and 17 items for proactive customer-oriented processes, is depicted in Table 3-3.

3.5 Data Collection and Sample

To test the proposed scales on a broad empirical basis, I conducted a large-scale survey among companies in manufacturing and service industries. The units of analysis are strategic business units within firms or (if no specialization into different business units exists) entire firms. The sample was composed of members of the Swiss Marketing Club and the Management Pool St. Gallen.

After a follow-up, I received 433 entirely completed questionnaires without missing values, for an effective response rate of 14 percent. I obtained approximately a third of the responses after the follow-up. Tests showed no significant differences among the responses from early versus late respondents on all major constructs and on key demographic variables, suggesting that nonresponse bias is not a problem in the data (Armstrong and Overton 1977). Analysis of variance (ANOVA) did not indicate significant differences across the distinct industries or positions of informants in the responses regarding key variables ($F_{\text{Industry}} \geq .43$, $F_{\text{Position}} \geq .76$), so data were pooled for further analyses. The composition of the sample is displayed in Table 3-4. The *Kolmogorov-Smirnov test* supports normality of the distribution for all constructs (all $D \geq 0,35$).

Key Informant Bias: Several techniques were used to avoid key informant bias. First, recommendations for obtaining valid data from key informants were followed. I assured confidentiality and anonymity of all participants, clearly explained the usefulness of the research to the respondent and the respondent's organization, and

motivated respondents by offering a summary of the research results and a free workshop on the research findings. This information would be meaningless to participants in the absence of accurate data. Furthermore all respondents were asked to consult with other knowledgeable organizational members whenever necessary. Second, the degree of knowledge about customer needs and innovation processes was questioned with two seven-point scales, resulting in scale means of 5.93 (SD = .81) (knowledge about customer needs) and 5.98 (SD = .77) (knowledge about innovation processes). Eight questionnaires with response values lower than five on one of these scales have been removed from the sample. Third, the average total years of experience in the current position is 8.41 years, suggesting that the respondents are knowledgeable informants. Furthermore five additional questionnaires had to be removed due to the validation of multiple measurement items from second informants (see Chapter 5.2), resulting in a final sample of 420 fully completed questionnaires from knowledgeable managers.

Table 3-4: Sample Composition

Industry	%	Position	%	No. of Employees	%	Market Share	%
Business-to-Business	53	Chief Executive Officer	26	< 50	29	< 1%	6
Durable Consumer Goods	17	Head of Strategic Business Unit	27	51 - 199	8	1% - 5%	10
Fast Moving Consumer Goods	12	Vice President of Marketing or Sales	36	200 - 499	20	6% - 15%	23
Retail	10	Senior Marketing and Sales Executive	11	500 - 999	6	16% - 25%	19
Services	8			1,000 - 4,999	15	26% - 35%	15
				5,000 - 9,999	4	36% - 45%	11
				10,000 - 49,999	10	46% - 55%	5
				> 50,000	7	> 55%	11

3.6 Data Analyses

Exploratory Factor Analysis: Principal component exploratory factor analysis with Varimax rotation was applied on the 35 proactive customer orientation items. Items were retained if they loaded .50 or more on a single factor and did not load .50 or more on more than one factor (approximate values). Using these criteria, four items were

eliminated (items aw_4 , at_6 , qm_6 , and sa_4). The remaining 31 items loaded on the proposed eight different factors are displayed in Table 3-5.

Table 3-5: Exploratory Factor Analysis

	Proactive Customer-Oriented Climate				Proactive Customer-Oriented Processes			
	1	2	3	4	5	6	7	8
	Awareness	Guidance	Atmosphere	Infrastructure	Customer Integration	Qualitative Methods	Trend Watching	Scenario Approaches
item aw ₁	.679	.194	.217	.158	.106	.118	.128	.055
item aw ₂	.717	.105	.061	.057	.045	.128	.041	-.036
item aw ₃	.676	.155	.372	.100	.095	-.073	.053	.084
<i>deleted</i>	.470	.089	.391	.259	.218	.077	.096	.195
item gu ₁	.354	.586	.174	.204	.162	.068	.114	.130
item gu ₂	-.049	.819	.096	.051	.030	.188	-.049	.082
item gu ₃	.172	.772	.053	.003	.153	.103	.109	.002
item gu ₄	.278	.671	.210	.185	.204	-.021	.175	.193
item at ₁	.227	.066	.738	.074	.130	.072	.140	.004
item at ₂	.489	.068	.612	.106	.112	-.013	.209	.017
item at ₃	.268	.001	.710	.129	.133	.043	.073	.048
item at ₄	.085	.138	.701	.051	-.023	.153	-.019	.073
item at ₅	.164	.201	.468	.195	.094	.159	.037	.004
<i>deleted</i>	.107	.011	.261	.104	.091	-.007	.129	.204
item in ₁	.138	.021	.045	.813	.038	.043	.075	.029
item in ₂	.333	.097	.269	.534	.111	-.024	.293	.122
item in ₃	-.088	.145	.358	.534	.147	.112	.141	.285
item in ₄	.282	.176	.195	.632	.092	.150	-.067	.069
item ci ₁	.077	.108	.076	.124	.741	.181	-.024	.074
item ci ₂	.182	.083	.143	.101	.658	.084	.182	.068
item ci ₃	.017	.099	.140	.075	.637	.123	.322	.002
item ci ₄	.116	.183	.042	-.046	.638	.081	-.061	.365
item ci ₅	.115	.064	.134	.063	.516	.315	-.139	.335
item qm ₁	-.014	.092	.080	.071	.215	.688	-.040	.159
item qm ₂	.109	.000	.108	.105	.169	.698	.036	.132
item qm ₃	-.016	.202	.178	.118	.152	.470	.264	.032
item qm ₄	.045	.063	.069	-.148	.095	.607	.275	.029
item qm ₅	.083	.079	.059	.104	-.088	.671	-.028	.308
<i>deleted</i>	.030	.027	-.055	-.005	.495	.547	.055	-.059
item tw ₁	.261	.049	.153	.126	.002	.289	.698	.094
item tw ₂	.148	.144	.112	.084	.189	.054	.728	.233
item sa ₁	.104	.123	.115	.210	.126	.271	.248	.512
item sa ₂	.172	.051	-.059	.068	.144	.038	.094	.761
item sa ₃	.035	.044	.141	.022	.062	.219	.119	.721
<i>deleted</i>	-.028	.182	.018	.158	.197	.400	.020	.512

Confirmatory Factor Analysis: Based on the definition of proactive customer orientation, I conclude that all eight factors are reflective measures of a proactive customer-oriented climate and proactive customer-oriented processes, respectively (Jarvis, MacKenzie, and Podsakoff 2003). The differentiation of proactive customer orientation in distinct dimensions is in line with comparable research on affective and cognitive market orientation (e.g., Homburg et al. 2007; Homburg and Pflesser 2000; Hult et al. 2005). After specifying the latent measurement model, confirmatory factor analysis was applied on the remaining 31 items. I randomly split the data into two samples, then conducted reliability analyses on the first sample and replicated those analyses on the second sample (Churchill 1979). I used item parcels to calculate the reliability analyses for the second-order constructs proactive customer-oriented climate and proactive customer-oriented processes (e.g., Bagozzi and Edwards 1998; Little, Cunningham, Shahar, and Widaman 2002). More specifically, for each of the four facets of climate and processes, I used confirmatory factor analysis to assess unidimensionality, averaged the values on the respective scales and then used these eight average values as indicators for the higher-level constructs (Bandalos and Finney 2001). The scale reliability values (average variance extracted, composite reliability, coefficient α) and item-to-total correlations are reported in Table 3-6. All scales exhibit items and construct reliabilities above the recommended levels (Bagozzi and Yi 1988), with the one exception of qualitative methods. However, I validated the importance of all items in a pretest that included qualitative interviews. Given the desire for multiple indicators and the author's belief that each item covers important facets of the construct, all five items were retained. Moreover it is not unusual to keep a construct in its original operationalization even if threshold values as recommended by literature are not met (see for examples Bagozzi and Dholakia 2006; Bettencourt and Brown 2003; Morhart, Herzog, and Tomczak 2009).

Table 3-6: Final Measurement Scales

Construct Name and Items	Item-to-total correlation (n = 420)
Scale reliability Sample 1 (n = 210) / Sample 2 (n = 210)	
Proactive Customer-Oriented Climate	
AVE = .59; CR = .85; α = .77 / AVE = .62; CR = .86; α = .79	
aw Parcel 1: Awareness	.793
gu Parcel 2: Guidance	.744
at Parcel 3: Atmosphere	.798
in Parcel 4: Infrastructure	.769

Awareness for Latent and Future Need

AVE = .61; CR = .82; α = .69 / AVE = .67; CR = .86; α = .75

aw ₁	We discuss a lot about the future of our customers.	.797
aw ₂	We continuously talk about potential customer needs.	.796
aw ₃	We are aware that customers' hidden and future needs are important.	.810
aw ₄	<i>We avoid killer phrases while discussing the changing needs and developments of our customers.</i>	<i>deleted</i>

Guidance towards Proactive Customer Orientation

AVE = .62; CR = .87; α = .81 / AVE = .62; CR = .87; α = .80

gu ₁	We exchange stories about exceptional and pronounced fulfillment of hidden customer needs.	.783
gu ₂	We share unwritten laws and hidden rules concerning exploratory customer learning.	.762
gu ₃	Entrepreneurial myths point out the importance of satisfying future needs.	.792
gu ₄	We use anecdotes from past events as examples for future customer orientation.	.836

Proactive Customer-Oriented Atmosphere

AVE = .58; CR = .87; α = .82 / AVE = .50; CR = .83; α = .74

at ₁	Our workplaces are open and out of the ordinary to support new ways of serving customers.	.790
at ₂	Our atmosphere enhances interactivity and reduces constraints when we meet customers.	.765
at ₃	Customer meeting rooms and offices are built in a style that supports communication and exchange.	.772
at ₄	We regularly meet in facilities that are related to the life or environment of our customers.	.690
at ₅	Meeting and discussion areas (e.g., cafeterias) exist where information can be exchanged informally across hierarchies.	.655
at ₆	<i>We sometimes meet in external facilities to refrain from day-to-day tasks.</i>	<i>deleted</i>

Proactive Customer-Oriented Infrastructure

AVE = .52; CR = .81; α = .70 / AVE = .56; CR = .84; α = .74

in ₁	We have a contact point to collect insights about future needs of our customers.	.787
in ₂	We discuss upcoming environmental changes all together in our business unit.	.715
in ₃	We award employees that successfully identify needs before they were articulated by customers.	.678
in ₄	We use an early warning system to detect changes in our market.	.763

Proactive Customer Oriented Processes

AVE = .55; CR = .83; α = .73 / AVE = .58; CR = .84; α = .75

ci	Parcel 1: Customer Integration	.765
qm	Parcel 2: Qualitative Methods	.736
tw	Parcel 3: Trend Watching	.720
sa	Parcel 4: Scenario Approaches	.782

Customer Integration

AVE = .51; CR = .84; α = .76 / AVE = .53; CR = .85; α = .78

ci ₁	We integrate customers into early innovation stages to learn about their needs.	.739
ci ₂	We incorporate the feelings and preferences of our customer during product development.	.759
ci ₃	We accompany customers in their daily life to learn about the use of our products.	.643
ci ₄	We work closely together with lead users who try to recognize customer needs months or even years before the majority of the market recognizes them.	.650
ci ₅	Our innovation processes are open towards customers.	.689

Qualitative Methods

AVE = .46; CR = .81; $\alpha = .71$ / AVE = .51; CR = .84; $\alpha = .76$

qm ₁	We conduct future-oriented focus groups with experts.	.767
qm ₂	Projective methods are used to gain insights into customers' latent needs.	.727
qm ₃	We observe and participate in communities of our customers.	.685
qm ₄	We conduct virtual tests of concepts and products.	.735
qm ₅	We systematically forecast possible futures with panels of experts.	.688
qm ₆	<i>We carry out market tests with prototypes.</i>	<i>deleted</i>

Trend Watching

AVE = .70; CR = .82 / AVE = .79; CR = .88

tw ₁	We monitor trends in society that signal changes in our customers' needs.	.894
tw ₂	We scan technological trends that may impact customer needs.	.834

Scenario Approaches

AVE = .62; CR = .83; $\alpha = .70$ / AVE = .62; CR = .83; $\alpha = .70$

sa ₁	Scenario management techniques are used to gain insights about the future.	.782
sa ₂	We identify new markets with the umbrella method.	.776
sa ₃	We are engaged in determining the impact of unforeseeable events.	.806
sa ₄	<i>We use roadmapping techniques to analyses future developments.</i>	<i>deleted</i>

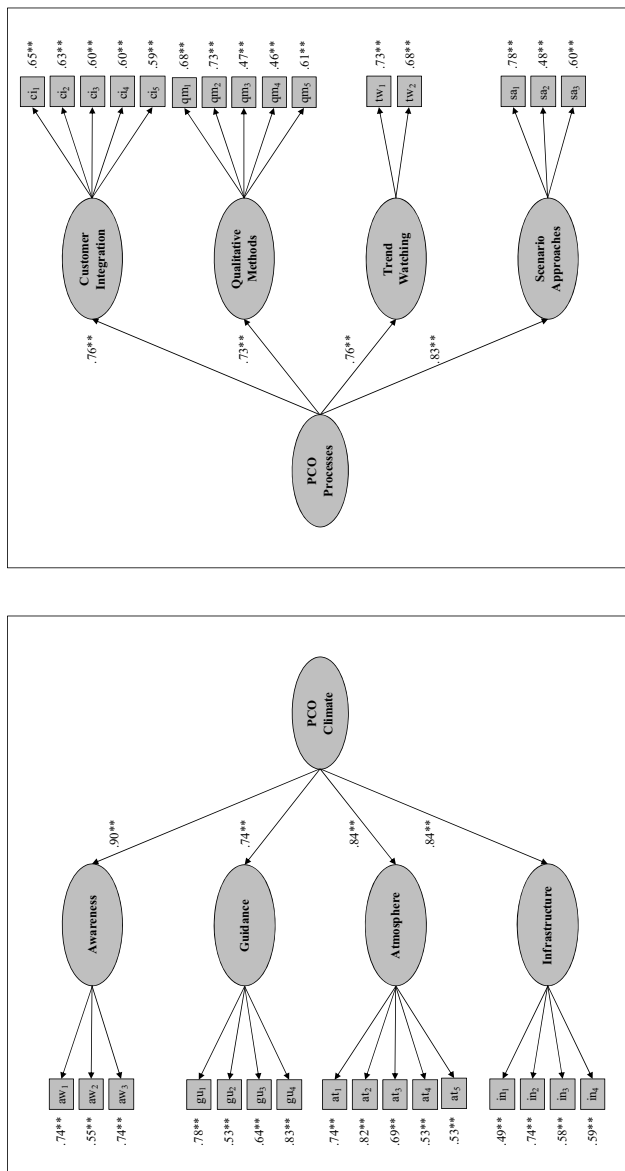
Discriminant validity of the sub dimensions was assessed on the basis of the criterion that Fornell and Larcker (1981) proposed. The results indicate that there are no problems with respect to discriminant validity between the dimensions (Table 3-7).

Table 3-7: Correlations and Squared Correlations of the Sub Dimensions

	Mean	SD	AVE	Correlations / Squared Correlations							
				1	2	3	4	5	6	7	8
1. Awareness for Latent and Future Needs	4.90	1.22	0.63	0.63	0.59	0.54	0.55	0.52	0.46	0.75	0.57
2. Guidance towards Proactive Customer Orientation	3.99	1.31	0.59	0.45**	0.59	0.17	0.17	0.18	0.11	0.12	0.11
3. Proactive Customer-Oriented Atmosphere	4.73	1.16	0.54	0.59**	0.42**	0.54	0.26	0.13	0.09	0.16	0.07
4. Proactive Customer-Oriented Infrastructure	4.36	1.32	0.55	0.44**	0.42**	0.51**	0.54	0.12	0.09	0.14	0.14
5. Customer Integration	4.00	1.28	0.52	0.32**	0.42**	0.36**	0.35**	0.52	0.21	0.12	0.19
6. Qualitative Methods	3.03	1.28	0.46	0.21**	0.33**	0.31**	0.29**	0.46**	0.46	0.15	0.22
7. Trend Watching	5.18	1.39	0.75	0.38**	0.35**	0.40**	0.38**	0.34**	0.39**	0.75	0.16
8. Scenario Approaches	3.33	1.42	0.57	0.28**	0.33**	0.27**	0.38**	0.44**	0.47**	0.40**	0.57

All mean values refer to a 7-point format; the lower-left triangle elements are correlations among the latent variables (** = $p < .01$); the upper-right triangle elements are squared correlations.

Figure 3–1: Final Measurement Model



The final second-order measurement model is displayed in Figure 3–1. Regarding the global fit of the models (proactive customer-oriented climate: $\chi^2/df = 2.54$, comparative fit index = .94, incremental fit index = .94, Tucker-Lewis coefficient = .93, root mean square error of approximation = .06; proactive customer-oriented processes: $\chi^2/df = 2.55$, comparative fit index = .93, incremental fit index = .93, Tucker-Lewis coefficient = .91, root mean square error of approximation = .06), all fit index values indicate a reasonably good fit of the model (Bagozzi and Yi 1988; Kline 2005; MacCallum, Browne, and Sugawara 1996). Taken together with the observation that exploratory models, such as these two, are often associated with lower levels of fit (e.g., Baumgartner and Homburg 1996; Muthen and Kaplan 1985; Reid and De Brentani 2010), I concluded that the models of proactive customer-oriented climate and proactive customer-oriented processes acceptably fit the data.

Alternative Models: In addition, I also tested three other models that represent alternate conceptualizations of proactive customer orientation. Alternative models included are: (a) A two factor second-order solution without sub dimensions, where items loaded directly on climate and processes (proactive customer-oriented climate: $\chi^2/df = 5.63$, CFI = 0.81, IFI = 0.78, TLI = .81, and RMSEA = .11, proactive customer-oriented processes: $\chi^2/df = 5.69$, CFI = 0.76, IFI = 0.76, TLI = .71, and RMSEA = .11), (b) a second-order eight-factor solution where all eight sub dimensions loaded directly on proactive customer orientation ($\chi^2/df = 2.43$, CFI = 0.86, IFI = 0.86, TLI = .85, and RMSEA = .06), and (c) a first-order solution where all items loaded directly on proactive customer orientation ($\chi^2/df = 4.02$, CFI = 0.71, IFI = 0.71, TLI = .68, and RMSEA = .09). Model comparisons with the chi-square difference test indicated that the proposed model of proactive customer orientation consisting of two dimension and eight sub dimensions performed better than alternative models.

Discriminant Validity: To assess discriminant validity of the main dimensions, the relationship between proactive customer-oriented climate, proactive customer oriented-processes, and responsive market orientation was examined (Fornell and Larcker 1981). All constructs are similar in that they contain a customer-oriented component and, hence, should be positively correlated (Atuahene-Gima et al. 2005; Blocker et al. 2010; Narver et al. 2004; Tsai et al. 2008). Nevertheless, the constructs are not measuring identical tendencies. I used a 5-item scale to measure responsive market orientation (AVE = .60, CR = .88, $\alpha = .83$) based on Narver et al. (2004). The two dimensions of proactive customer orientation are discriminant (AVE_{Climate} = .61, AVE_{Processes} = .58, squared correlation = .33) and highly correlated ($p = .58$). The

correlation between responsive market orientation and proactive customer-oriented climate (processes) is positive ($p_{\text{Climate}} = .67$, $p_{\text{Processes}} = .57$), however the squared correlation ($p^2_{\text{Climate}} = .45$, $p^2_{\text{Processes}} = .33$) indicates discriminant validity. Thus all three constructs are related but conceptually distinct, suggesting that a traditional measure of market orientation is not capable of capturing customer-led as well as lead-the-customer behaviors (e.g., Baker and Sinkula 2007; Narver et al. 2004).

Generalizability: In order to test for the generalizability of the scales for proactive customer-oriented climate and proactive customer oriented-processes, I split the sample into two groups, consisting of firms that operate in a business-to-business and in a business-to-consumer industry. The confirmatory factor analysis was then repeated for both subsamples ($n_{\text{B2B}} = 218$, $n_{\text{B2C}} = 202$). Fit index values indicate an acceptable fit of the model in the business-to-business sample (proactive customer-oriented climate: $\chi^2/\text{df} = 1.81$, CFI = 0.95, IFI = 0.95, TLI = .93, and RMSEA = .06; proactive customer-oriented processes: $\chi^2/\text{df} = 1.85$, CFI = 0.93, IFI = 0.93, TLI = .90, and RMSEA = .06) as well as in the business-to-consumer sample (proactive customer-oriented climate: $\chi^2/\text{df} = 1.94$, CFI = 0.91, IFI = 0.89, TLI = .91, and RMSEA = .07; proactive customer-oriented processes: $\chi^2/\text{df} = 1.78$, CFI = 0.93, IFI = 0.93, TLI = .90, and RMSEA = .06). Thus I found some support for external validity of the scale within both a business-to-business and a business-to-consumer setting. Nevertheless additional research is needed to further validate the developed measures.

Convergent and Nomological Validity: Convergent and nomological validity of the two scales are assessed to verify that both constructs linked to other theoretical constructs as expected. The existing scale for proactive market orientation from Narver et al. (2004) was incorporated in the questionnaire to test for convergent validity. The correlations between the proactive market orientation scale (AVE = .70, CR = .90, $\alpha = .85$) and the newly developed scales for proactive customer-oriented climate (processes) are highly positive ($p_{\text{Climate}} = .45$, $p_{\text{Processes}} = .61$), providing some evidence of convergent validity. Nomological validity is the degree to which a construct behaves as it should within a system of related constructs (Bagozzi 1980). Thus a nomological network needs to be derived based on theoretical propositions (Cronbach and Meehl 1955). The hypotheses in Chapter 4 represent a nomological network for proactive customer orientation. More precisely, I will investigate the relationship of proactive customer-oriented climate and proactive customer oriented-processes with antecedents and previously identified consequences (Atuahene-Gima et al. 2005;

Blocker et al. 2010; Tsai et al. 2008). Therefore nomological validity is tested with the structural equation model and regression analysis in Chapter 5.

3.7 Summary of Scale Development

As existing scales inhibit some limitations and seemed inappropriate for this study, new scales for proactive customer-oriented climate and proactive customer oriented-processes have been developed. Based on expert interviews, workshops with managers, and a meta-analysis of existing studies related to proactive customer orientation, an initial item set has been collected and refined with expert judgments. A sample of 420 key informants from various industries supported the reliability, validity, and generalizability of the new scales.

The final measure of proactive customer orientation consists of two independent dimensions, proactive customer-oriented climate and proactive customer-oriented processes. The dimensions are measured with 16 items and 15 items, respectively, and are composed of eight categories. *Proactive customer-oriented climate* is defined as the extent to which attention to customers' latent and future needs is lived within an organization, and can be grouped into the four sub dimensions awareness for proactive customer orientation, guidance towards proactive customer-oriented behavior, proactive customer-oriented atmosphere, and proactive customer-oriented infrastructure. *Proactive customer-oriented processes* are defined as the extent of information processes that aim to probe latent needs and uncover future needs of customers, and can be grouped into the four sub dimensions customer integration, in-depth qualitative methods, trend watching, and scenario approaches.

In detailing the climate and processes of proactive customer orientation, the second research goal of this work has been addressed. In the following chapters, the performance implications, antecedents, and moderating factors of proactive customer-oriented climate and proactive customer-oriented processes will be examined.

4 Hypotheses Development

In this chapter, a number of hypotheses regarding the impact of proactive customer orientation, its antecedents, and contingency factors are developed. Overall, findings from literature and my qualitative inquiries indicate that proactive customer orientation positively affects customer value and business performance. However, it still lacks insights of whether proactive customer-oriented climate and proactive customer-oriented processes affect exploratory as well as exploitative innovation, and about contingency factors that moderate these relationships (see Chapter 2.3.2 for details). Further, little is known about the antecedents for proactive customer orientation. Thus, based on the conceptualization of proactive customer-oriented climate and proactive customer-oriented processes from the previous chapter, these relationships are examined. To overcome limitations of existing research (Connor 2007; Ketchen et al. 2007), I develop my hypotheses along the entire underlying framework of the resource-based view. The performance implications of proactive customer orientation in existing studies are displayed in Figure 4–1 and include exploratory innovation, customer value, and new product performance, all investigated separately. The framework of the hypothesized main effects is provided in Figure 4–2 and includes the strategic resource, the strategic action, the competitive advantage, and the resulting performance implication. Thus this study investigates proactive customer orientation and its consequences are much more detailed than previous research.

4.1 Performance Implications of Proactive Customer Orientation

Customer orientation includes two different dimensions, an affective ("climate") and a cognitive ("processes") dimension (Homburg et al. 2007; Hult et al. 2005). According to Day (1994, p. 43), the affective dimension of customer orientation supports "the value of thorough market intelligence and the necessity of functionally coordinated actions directed at gaining a competitive advantage." Such elements are vital to attaining a competitive advantage, but they do not shape performance directly: "Customers do not purchase a firm's goods and services simply because the firm has a particular type of culture" (Ketchen et al. 2007, p. 1174). Instead, a customer-oriented climate encourages employees to act on the knowledge about customers in order to develop superior offers (compare to Chapter 2.1).

Figure 4-1: Performance Implications of Proactive Customer Orientation in Existing Studies

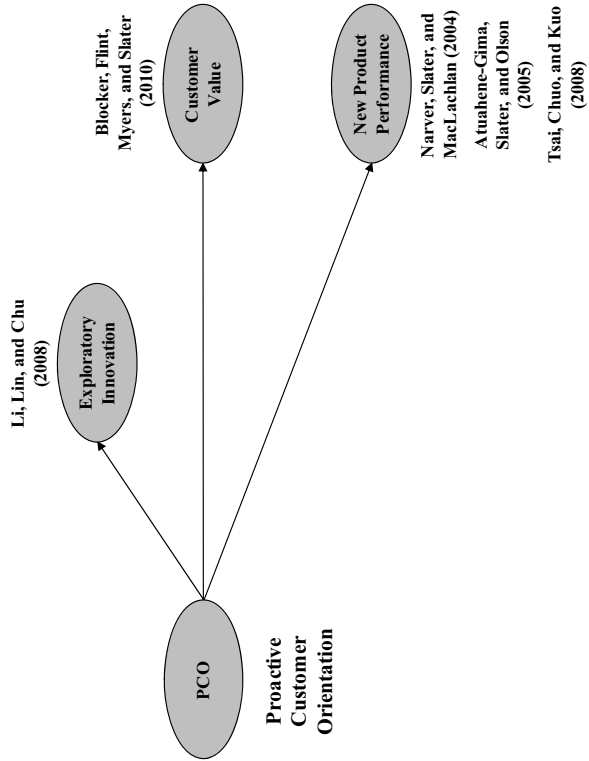
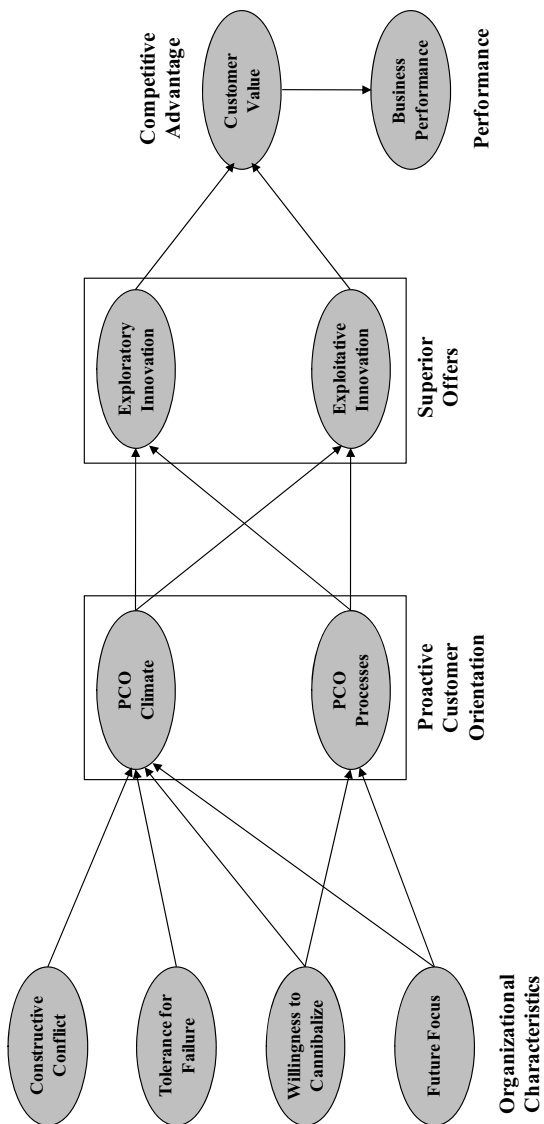


Figure 4-2: Framework of Proactive Customer Orientation, Superior Offers, Competitive Advantage, and Performance in the Present Study



Furthermore information processing abilities, the cognitive system, are critical due to the acceleration of change, the explosion of available market data, and the importance of anticipatory action (Day 1994). Such processes are a source of competitive advantage due to their value in numerous activities, their difficulty to achieve, and the difficulty that competitors have imitating them. Again, they do not directly influence performance (Hult et al. 2005). The activities associated with information processes allow firms to enact better actions, in other words superior offers, which in turn enhance performance (Thomas, Clark, and Gioia 1993). Thus proactive customer-oriented climate and proactive customer-oriented processes are both linked to superior offers.

Proactive Customer Orientation and Exploratory Innovation: My first prediction links proactive customer-oriented climate to exploratory innovation. I defined proactive customer-oriented climate as the extent to which attention to customers' latent and future needs is anchored within an organization. Exploratory innovations are rather radical innovations, designed to meet the needs of emerging customers or markets (Benner and Tushman 2003; Danneels 2002; Jansen et al. 2006). They may for example include completely new designs, the creation of new markets, or developing new channels of distribution (Abernathy and Clark 1985).

A proactive customer-oriented climate encourage managers to think outside their current business boundaries thus leaving more space for creativity and enabling them to create new value offerings that aim at latent and future needs. Thus it drives exploratory innovation by "allowing the parts of an organization to step outside the organization's inevitably limited core world view and simply try something new" (Brown and Duguid 1991, p. 51). Moreover existing literature emphasizes that emerging customers or markets cannot be served with a responsive customer orientation (e.g., Baker and Sinkula 2007; Christensen and Bower 1996; Henderson 2006). Given the radical nature of exploratory innovations, they require a special attention to customers' latent and future needs, and organizations have to develop, articulate, and share a mutual point of view about future offerings (Hamel and Prahalad 1994). This includes the awareness for latent and future needs, the guidance of employees towards being proactive customer-oriented, proactive customer-oriented atmosphere, and proactive customer-oriented infrastructure within an organization. Thus, my initial prediction is:

H₁: Proactive customer-oriented climate is positively related with exploratory innovation.

My second prediction links proactive customer-oriented processes to exploratory innovation. I defined proactive customer-oriented processes as the extent to which information processes within an organization aim to probe latent needs and uncover future needs. To obtain market knowledge about latent and future needs of customers, specific types of processes need to be employed. Traditionally market research techniques like surveys and focus groups need to be complemented with advanced techniques to gain these insights. To counter the thread of a myopic market orientation, organizations have to "go beyond local search" (Rosenkopf and Nerkar 2001, p. 287).

Thus exploratory innovations require special information processes that identify customers' latent and future needs. As examples, Von Hippel (1986) suggests that businesses should work closely with lead customers to discover latent needs of other customers, Urban et al. (1997) recommend in-depth qualitative methods like information acceleration to uncover hidden needs, Day and Schoemaker (2004) describe sensing and acting on weak signals, and Zeithaml et al. (2006) propose scenarios about possible futures of customers. My second prediction is:

H₂: Proactive customer-oriented processes are positively related with exploratory innovation.

Proactive Customer Orientation and Exploitative Innovation: Contrary to Li et al. (2008), I also expect a positive relationship between proactive customer orientation and exploitative innovation. Exploitative innovations are rather incremental innovations, designed to meet the needs of existing customers or markets (Benner and Tushman 2003; Danneels 2002; Jansen et al. 2006). They may for example improve established designs, expand existing products and services, or increase the efficiency of existing distribution channels (Abernathy and Clark 1985). In the past, exploitative innovations have been mainly linked to responsive market orientation and existing needs of customers (e.g., Christensen 1999; Henderson 2006). However, an organization's capability to probe latent needs and discover future needs may also contribute to exploitative innovation.

My third hypothesis links proactive customer-oriented climate to exploitative innovation. Two different notions lead to this prediction, the multidimensionality of market orientation and the nature of exploratory innovation strategies. First, although there are some critiques (Connor 1999, 2007), the majority of scholars claim that being

responsive and proactive towards customers is not controversial (e.g., Ketchen et al. 2007; Slater and Narver 1998, 1999). Therefore I expect that a proactive customer-oriented climate contributes to exploitative innovation *in addition* to the contribution resulting from responsive market orientation. The organizational attention to customers' latent and future needs may result in improvements of existing products and services that go beyond those resulting from expressed needs. Second, a large body of research defines exploratory innovation strategy as an overwhelming concept that includes exploitative innovation strategy (e.g., Morgan and Berthon 2008; Smith and Tushman 2005). Following these authors, a climate positively related with exploratory innovation should also be positively related with exploitative innovation. Thus my third prediction is:

H₃: Proactive customer-oriented climate is positively related with exploitative innovation.

Furthermore I expect a positive relationship of proactive customer-oriented processes with exploitative innovation. Information processes that identify customers' latent and future needs may contribute to exploitative innovations by generating valuable new insights. As an example, market experiments can be used to modify offerings based on latent and future needs (Hamel and Prahalad 1994; Slater and Narver 1995). Another possibility is the observation of how customers use products (Leonard and Rayport 1999). Hence, lead customers collaborations, in-depth qualitative methods, sensing and acting on weak signals, and possible future scenarios may generate new insights that equally contribute to exploit existing offerings:

H₄: Proactive customer-oriented processes are positively related with exploitative innovation.

Exploratory Innovation, Exploitative Innovation and Customer Value: My next two predictions link superior offers, in the form of market-based innovations⁹ that include exploratory and exploitative innovations, with customer value. Customer value is defined as the trade-off between benefits and costs that result from a product or service (Woodruff 1997). However, customer value perceptions are continuously changing because customers invariably adjust their expectations (Day 2000; Parasuraman 1997).

⁹ Contrary to Zhou, Yim, and Tse (2005) the author defines market-based innovations as all innovations that are based on customer needs (including expressed, latent, and future needs).

Due to the dynamic aspect of customers' desired value change (Flint et al. 2002), exploratory and exploitative market-based innovations are crucial to continuously provide high customer value. Overcoming ongoing changes force firms to augment their offerings to maintain or increase their value to customers (Blocker et al. 2010; Hult et al. 2005). Augmenting existing offerings may either result in exploratory innovation, completely new offerings, or exploitative innovation, improved offerings (e.g., Danneels 2002; Dewar and Dutton 1986). Thus, in line with previous research (e.g., Atuahene-Gima 2005; Baker and Sinkula 2007; Ettlie, Bridges, and O'Keefe 1984; Han, Kim, and Srivastava 1998; Jansen et al. 2006), I expect a positive effect of exploratory and exploitative innovation on customer value:

H₅: Exploratory innovation has a positive effect on customer value.

H₆: Exploitative innovation has a positive effect on customer value.

Customer Value and Business Performance: Customer value perceptions are related to satisfaction, which in turn is linked to firm performance (e.g., Blocker et al. 2010; Kim and Mauborgne 1997; Kohli and Jaworski 1990; Narver and Slater 1990). Research either suggests that individuals' assessment of customer value leads to the formation of satisfaction feelings (Woodruff 1997) or that customer value directly increases satisfaction (Lam, Shankar, Erramilli, and Murthy 2004). It is widely acknowledged that customer satisfaction is related to superior performance (e.g., Anderson et al. 1994; Fornell et al. 2006). In line with previous research I therefore expect:

H₇: Customer value has a positive effect on business performance.

4.2 Antecedents of Proactive Customer Orientation

To date, it lacks insights of how managers may increase proactive customer orientation of their firm. Because of the missing literature, I asked the managers during the expert interviews to describe circumstances that facilitate a proactive customer orientation. The interviewed managers exposed the importance of organizational characteristics to overcome internal barriers, motivate employees, and maintain the necessary resources for introducing proactive customer-oriented climate and proactive customer-oriented processes. These include the attention towards future developments, the willingness to

replace existing investments, the understanding that a certain amount of innovative and new ideas may fail, and a constructive nature of solving problems.

Future Market Focus: A future-market focus is defined as the extent to which a firm emphasizes future customers and competitors relative to current customers and competitors (Chandy and Tellis 1998). Obviously such a focus is important for proactive customer orientation. To successfully engage in identifying latent and future needs, firms need to focus on emerging new characteristics of their market, thereby moving away from solely considering the current situation and responding to customers' obvious wishes. The downside was described by a Sales Manager of a large business-to-business company: *"We are focused on the status-quo, the current situation in our market. That's why we overlook important trends of our customers."*¹⁰

A future-market focus enhances the formulation of a common vision (Adams, Bessant, and Phelps 2006; Pinto and Prescott 1988), which supports the awareness and guidance towards latent and future needs. Furthermore being future-market focused is especially important as staying too close to the current market harms information processes directed at latent or emerging needs (Christensen and Bower 1996). Thus I assume a positive impact from future market focus on proactive customer-oriented climate and on proactive customer-oriented processes:

H₈: The level of future market focus is positively related with (a) proactive customer-oriented climate and (b) proactive customer-oriented processes.

Willingness to Cannibalize: Chandy and Tellis (1998) define willingness to cannibalize as the extent to which a firm is prepared to reduce the actual or potential value of its investments in assets and organizational routines. Shifting the focus from current customer needs to explore new customer needs, even if this means sacrificing current sources of profit, can therefore be described as endorsing cannibalization. A product manager pointed out its importance in an expert interview: *"A main problem in our department is the fear of the responsible managers, that new offers targeting potential future needs may harm our existing products. If we introduce a new distribution channel, what about our current channels? And if we invest in a brand community, will this decrease the traffic on our website? Even if an innovation has a huge potential for the future, managers tend to stick with the things that they know and*

¹⁰ Informant 7, Thyssen Krupp AG (25.02.2009). Original statement in German, translated by the author.

*that have worked until today. Due to these reasons it is difficult to target latent and future needs within our department."*¹¹

Hence, willingness to cannibalize reflects an organizational characteristic that recognizes that pursuing new opportunities may involve shifting the focus from current resources to exploring new resources, which may sacrifice current sources of profit (Levinthal and March 1993; March 1991). Such a characteristic appears essential for a proactive customer-oriented climate. In addition, proactive customer-oriented processes may also benefit from a firm's willingness to cannibalize. Firms routinize activities over time, and these routines represent a sunk cost investment specific to a firm's historical domains of activity (Liebeskind, Oliver, Zucker, and Brewer 1996). Thus methods to identify latent and future needs may harm the investment in traditional methods of market intelligence generation, such as customer surveys and focus groups. Thus I assume:

H₉: The level of willingness to cannibalize is positively related with (a) proactive customer-oriented climate and (b) proactive customer-oriented processes.

Tolerance for Failure: Danneels (2008) defines tolerance for failure as the extent to which failure is seen within a firm as an opportunity to learn. If a firm wants to successfully engage in innovation activities, failures need to be accepted as the inevitable byproduct of innovation. An international marketing manager characterizes the counterproductive impact of a punitive culture within her department: *"In our company, a manager who is responsible for a canceled project gets blamed and must worry about the negative influence on his career. Hence, we all avoid risky efforts and stick with the tried and true."*¹²

In an organization that regards failure as an inevitable byproduct of reaching out for new directions, an explorative climate might be more prevalent (McGrath 2001). In failure-tolerant firms, responsible managers of failed projects do not carry the entire burden of failure and do not become scapegoats (Delbecq and Mills 1985). Williams (1999, p. 72) introduces the term 'smart mistakes' for such failures that are "made within the confines of a high-quality decision process or for the purpose of expanding the organization's decision set." He notices that smart mistakes help organizations to

¹¹Informant 1, Johnson & Johnson GmbH (17.04.2009). Original statement in German, translated by the author.

¹²Informant 8, Henkel AG & Co. KGaA (05.04.2009). Original statement in German, translated by the author.

learn and build new capabilities. Hence, failures may even be beneficial for a proactive customer-oriented climate. Thus I assume:

H₁₀: The level of tolerance for failure is positively related with proactive customer-oriented climate.

Constructive Conflict: Constructive conflict refers to the vigorous debate of ideas, beliefs, and assumptions by organization members (Menon, Bharadwaj, and Howell 1996). If opposing views are openly discussed and the focus in this discussion is on issues rather than on people, a firm possesses a culture of constructive conflict. A marketing manager of GE specified the impact of constructive conflict for successfully identifying latent and future needs: "*When we speak about unusual approaches, the discussion often tends to get personal, with people picking on each other without constructive suggestions. In such a climate, we are not able to go forward with new ideas or new methods.*"¹³

In contrast, constructive conflict tends to focus on issues rather than on people, and the organization members are able to distinguish challenges of ideas from challenges of the proponents of the ideas (Amason 1996). Furthermore, in an organization characterized by constructive conflict, opposing views are openly discussed (Tjosvold 1985). In such organizations, members speak freely and challenge the premises of other members' viewpoints without the threat of anger, resentment, or retribution. Vigorous discussion of ideas is encouraged and it is understood that this debate fosters the common goal of making better decisions (Menon et al. 1996). A culture of constructive conflict can also be viewed as a safety net (Levinthal and March 1993). In this view, it provides psychological safety, a setting in which controversial, dissenting, or minority opinions can be expressed and explored in open debates (Danneels 2008). Thus I assume that constructive conflict contributes to proactive customer-oriented climate:

H₁₁: The level of constructive conflict is positively related with a proactive customer-oriented climate.

¹³Informant 6, GE Healthcare (19.02.2009). Original statement in German, translated by the author.

4.3 The Relative Importance of Proactive Customer-Oriented Processes

To make theory-based predictions about the relative importance of proactive customer-oriented climate (affective organizational system) and proactive customer-oriented processes (cognitive organizational system), individual-level theories borrowed from social and cognitive psychology need to be considered (Homburg et al. 2007). More specifically, I expect that proactive customer-oriented climate exerts a dominant impact on market-based innovations when individual responses are mostly guided by individual affective processes. Likewise, in situations in which individual responses are largely driven by individual cognitions, proactive customer-oriented processes become the dominant driver of market-based innovations. Following Homburg et al. (2007), two theories from psychology provide guidance on the role of affect and cognition in driving individual behavior: Cognitive appraisal theory and the affect infusion model.

Cognitive appraisal theory explains how cognitive and affective processes create action tendencies in people confronted with a new environmental stimulus (Lazarus 1991; Lazarus and Folkman 1984). Two modes of appraisal can be distinguished: Automatic processing and deliberate processing. In the mode of automatic processing, and if a situation is initially appraised as being of goal relevance, this leads to the evolution of an immediate, affective response. If time and opportunity are given, a person may engage in deliberate processing involving cognitive reappraisals of the situation. More information is considered, and the analysis of the situation is more intricate. Thus, deliberate processing leads to a response that is more cognitively founded.

The *affect infusion model* explains that the way affective processes influence decisions and judgments depends on the way information is processed in a particular situation (Forgas and George 2001; Loewenstein and Lerner 2003). This theoretical concept also supports the notion that the relative impact of affect and cognition on behavior depends on several context factors. For example, Baron (2008) examines entrepreneurship and found the relative impact from the effect on perception, judgments, and decision moderated by personal variables and situational factors. These theories suggest that, while in general the affective system and the cognitive system influence perception, decision and judgments simultaneously, the relative importance of these two systems may systematically vary depending on the situation.

Homburg et al. (2007) find support that responsiveness to customer-related changes is more strongly influenced by the affective organizational system than by the cognitive organizational system. More specifically, they argue that a customer-oriented culture is more important than customer-oriented processes due to three characteristics: (1) The high degree of social interaction with customers, (2) the need for spontaneous decisions, and (3) customers' willingness to share information openly. While these characteristics apply to a responsive customer orientation, the situation in which firms probe customers' latent needs and uncover future needs is different.

Planned and Systematic Interactions: The importance of social interaction with customers has received much attention in recent studies (e.g., Chan, Yim, and Lam 2010; Ramani and Kumar 2008). However firms are not likely to gain insights about latent and future needs through casual interactions with customers (e.g., Christensen 1999; Hamel and Prahalad 1994). As Day (1999b, p. 10) notes, firms have to "recognize the difference between asking customers to identify problems and expecting them to develop solutions." Although proactive customer-oriented climate contributes to gaining insights, many scholars claim the importance of appropriate processes that involve the cognitive reappraisal of new findings (e.g., Chesbrough et al. 2006; Day and Schoemaker 2004; Urban and Hauser 2004). Hence, it may be suggested that firms need some sort of intelligence system to analyze latent and future needs.

Need for Well-Considered Decisions: While firms often encounter situations with a high need for spontaneous decisions to respond to customers' expressed needs, for example in personal interactions, uncovering customers' latent and future needs call for a more sophisticated approach of information processes (e.g., Kruthoff 2005; Müller 2008; Steinhoff 2006; van der Duin 2006). Resources for search activities and the interpretation of the obtained information are crucial to gain valuable new insights. As cognitive appraisal theory and the affect infusion model suggest, the availability of processing resources plays an important role in determining the relative importance of cognition and affect for behavior (Forgas and George 2001; Lazarus 1991). If the availability of processing resources is high, cognitions are more important (Shiv and Fedorikhin 1999). Consequently, proactive customer-oriented processes are important to probe customers' latent needs and uncover future needs successfully.

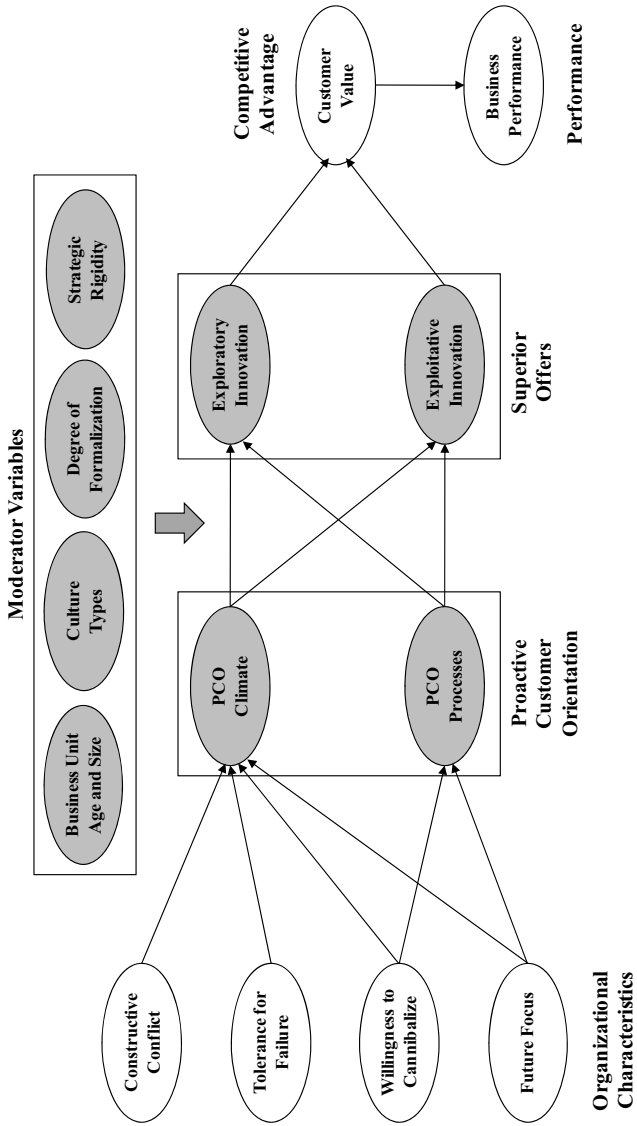
Articulation of Latent and Future Needs: Although many customers have a strong self-interest in providing information about their needs and wishes (Homburg et al. 2007), they are often not able to articulate their latent and future needs (e.g., Christensen

1999; Hamel and Prahalad 1994; Ulwick 2002). Thus firms have a higher need for organizational mechanisms to generate information. In addition, uncertainty about latent and future needs cannot be resolved as easily as with current needs (Zeithaml et al. 2006). Instead, firms must analyze weak signals and contradictory information (e.g., Ansoff 1975; Day and Schoemaker 2006; Schögel and Sulser 2007). Uncertainty is positively associated with the intensity of a firm's information-processing activities (Galbraith 1973). Thus, the role of an organization's cognitive system is important in guiding decisions to probe customers' latent needs and uncover future needs. Conversely, proactive customer-oriented climate provide relatively little guidance in this context.

In summary, because of the relative importance of planned and systematic interactions, the need for well-considered decisions, and customers' inability to articulate their latent and future needs, I expect that customer-oriented processes are the dominant driver of market-based innovations:

H₁₂: Exploratory innovation (a) and exploitative innovation (b) are more strongly influenced by proactive customer-oriented processes than by a proactive customer-oriented climate.

Figure 4-3: Moderating Effects of Organizational Characteristics



4.4 Moderating Effects of Organizational Characteristics

Although it is assumed that exploratory innovation and exploitative innovation are more strongly influenced by proactive customer-oriented processes, its relative importance may be different among organizations. In this section, I develop a set of hypotheses that posit that the relative importance of proactive customer-oriented processes and proactive customer-oriented climate may differ due to contingency factors (Figure 4–3). Because of the importance of intra-organizational factors for information processes (e.g., Forgas and George 2001; Moorman 1995; Sinkula 1994) and the climate within an organization (e.g., James and Jones 1974; Jong, Ruyter, and Lemmink 2004; Naumann and Bennett 2000), I focus on intra-organizational variables, namely (1) business unit age, (2) business unit size, (3) dominant organizational values, (4) degree of formalization, and (5) strategic rigidity. The focus of internal characteristics or resources are in line with current portrayals of the resource-based view as a contingency theory of organizations (e.g., Barney, Wright, and Ketchen 2001; Barney 2001; Ketchen et al. 2007). Strategic resources only have potential value, and realizing this potential requires alignment with other important organizational elements.

Business Unit Age and Proactive Customer-Oriented Climate: Research in strategic management has repeatedly emphasized dysfunctional consequences of a firm's enduring success in the marketplace (e.g., a long market history). Examples of such consequences include the development of organizational inertia and a reduced responsiveness to new environmental developments (Miller 1994; Probst and Raisch 2005). This can partly be explained by the notion that success reduces the impact of the cognitive system on decisions made in these organizations (Homburg et al. 2007). Prior success may trigger a process in which managers become overconfident in their own abilities and the effectiveness of their way of conducting business (Starbuck and Milliken 1988). At the same time, managers tend to develop oversimplified cognitive models of the reasons for their prior successes that they then regard as irrefutable formulae for future success (Homburg et al. 2007; Miller 1994; Miller and Chen 1996). These findings are consistent with research on affect infusion (Forgas and George 2001), which posits that the positive affect resulting from enduring success makes people susceptible to neglecting external information.

Thus, even if proactive customer-oriented processes have produced new insights of significant changes in future customer needs, organizations suffering inertia do not act

on them. As an example, the large automotive manufacturers all obtained information that customers' needs changed over the past 15 years, however many firms like General Motors failed to introduce appropriate offerings due to a lack of proactive customer-oriented climate. Consequently, for organizations that have a long successful history in the marketplace, the effect of proactive customer-oriented climate on innovation is becoming more important. Thus I hypothesize:

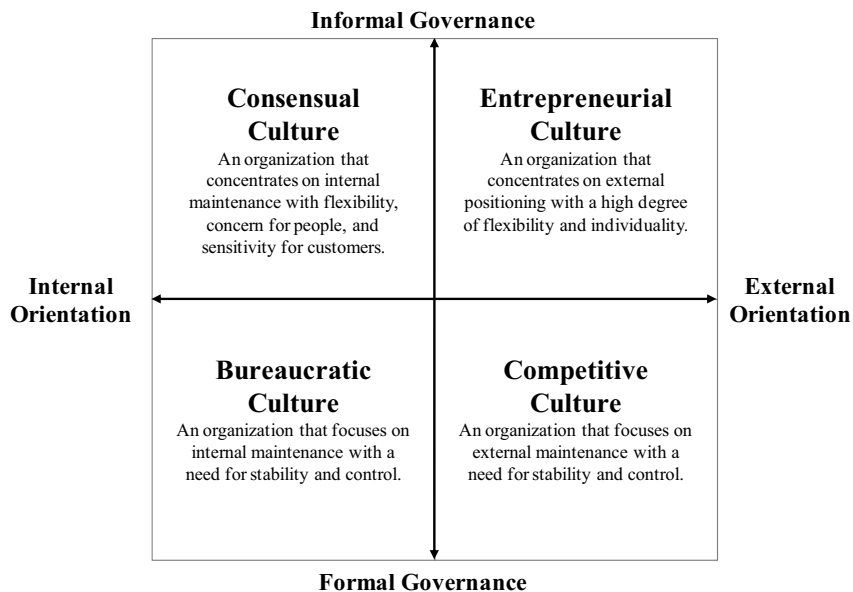
H₁₃: The relative importance of proactive customer-oriented climate as a driver for (a) exploratory and (b) exploitative innovation is higher in business units with a long market history than in business units with a short market history.

Business Unit Size and Proactive Customer-Oriented Climate: It is widely acknowledged that many large organizations (and, in the same manner, large business units) struggle to be truly innovative (e.g., Christensen and Bower 1996; Hamel and Prahalad 1994). In this view, any small, entrepreneurial organization that is not restrained by conservatism and short-termism has an innovation advantage. However, firms of all sizes can be radical innovators if they are organized appropriately (Chandy and Tellis 1998), in other words as long as they have an appropriate climate. In particular, a proactive customer-oriented climate releases the proactive customer orientation of employees. This notion is supported by Hamel and Prahalad (1994, p. 86): "Even the fiercest critics of large, unimaginative companies seldom suggest that the employees of those companies are themselves any less imaginative than those who work for small companies." Thus proactive customer-oriented climate is assumed to be more important in larger business units:

H₁₄: The relative importance of proactive customer-oriented climate as a driver for (a) exploratory and (b) exploitative innovation is higher in larger business units than in smaller business units.

Culture Types and Proactive Customer-Oriented Climate: Deshpande and Webster (1989, p. 4) define organizational culture as "the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with the norms for behavior in the organization." Quinn and Rohrbaugh (1983) propose a competing values model of organizational effectiveness based on an empirical analysis of the values individuals hold for organizational performance. They find that clusters of values describe psychological archetypes of organizations.

Figure 4–4: The Competing Types of Organizational Culture



Two key dimensions define the culture types based on competing values (Deshpande et al. 1993; Deshpande and Webster 1989; Quinn and Rohrbaugh 1983). One axis describes the continuum from informal to formal governance, that is, whether the organizational emphasis is more on flexibility, spontaneity, and individuality or on control, stability, and order. The other axis describes the relative organizational emphasis on internal maintenance (e.g., smoothing activities, integration) or on external positioning (e.g., competition, environmental differentiation). The four resulting culture types have originally been labeled clan, hierarchy, adhocracy, and market. However, Deshpande and colleagues adopt new labels for the culture types, which are more closely related to the particular application (Deshpandé and Farley 2004; Deshpandé, Farley, and Webster 2000). These new labels are (a) *competitive (market) culture* characterized by an emphasis on competitive advantage and market superiority, (b) *entrepreneurial (adhocracy) culture* emphasizing innovation and risk-taking, (c) *bureaucratic (hierarchy) culture* characterized by regulations and formal structures, and (d) *consensual (clan) culture* emphasizing loyalty, tradition and internal maintenance. According to Deshpande et al. (1993), the climate within organizations is

lived and interpreted by individuals in the context of their underlying archetypes. More specifically, I expect that the competing values affect the relative importance of proactive customer-oriented climate.

Entrepreneurial Values, Bureaucratic Values and Proactive Customer-Oriented Climate: Firms with entrepreneurial values encourage market oriented values (Matsuno et al. 2002) and are typically good at boundary spanning (Quinn and Rohrbaugh 1983). Conversely, firms with bureaucratic values tend to be more specialized, with routine operating tasks and a proliferation of formal procedures, rules, and communications (Quinn and Rohrbaugh 1983). They reward planning, objective setting, and evaluation but are less good at encouraging people to adapt to external market changes. Rather they try to ensure smooth, predictable internal processes.

Firms with bureaucratic values tend to use defined processes within business units. Climate, more generally, refers to a broad class of organizational and perceptual variables that reflect individual-organizational interactions which affect individual behavior (Hansen and Wernerfelt 1989). These patterns of individual-organizational interactions are becoming more important when it lacks routine operating tasks and formal procedures. Moreover, bureaucratic values may counterbalance the effectiveness of customer-oriented climate (Meehan et al. 2007). Thus I assume:

H₁₅: The relative importance of proactive customer-oriented climate as a driver for (a) exploratory innovation and (b) exploitative innovation is higher in firms where entrepreneurial values dominate over bureaucratic values.

Consensual Values, Competitive Values and Proactive Customer-Oriented Climate: Despite their internal orientation, firms with consensual values are characterized by "tremendous energy and willingness to adapt" (Ouchi and Wilkins 1985, p. 479). Consequently these firms are the most information-intensive culture type, are especially good at transmitting and utilizing information, and have high levels of trust, teamwork, and mutual support (Moorman 1995). Firms with competitive values emphasize goal achievements and strive for achieving a high competitive position (Deshpande et al. 1993). As a consequence, information processes will also be heightened when these values are strong (Moorman 1995).

However, firms with consensual values and competitive values may differ in the importance of proactive customer-oriented climate. An internal orientation with high

levels of trust, teamwork, and support needs to be supplemented with an appropriate climate to effectively probe latent needs and uncover the needs of customers. Due to the consensual values, insights from cognitive organization processes alone may fail to influence the behavior of the employees (Forgas and George 2001). Thus I assume:

H₁₆: The relative importance of proactive customer-oriented climate as a driver for (a) exploratory innovation and (b) exploitative innovation is higher in firms where consensual values dominate over competitive values.

Degree of Formalization and Proactive Customer-Oriented Processes: Formalization is defined as the extent to which work roles are structured in an organization, and the activities of the employees are governed by rules and procedures (e.g., Damanpour 1991; Olson, Walker, and Ruekert 1995). Consequently the use of defined processes is more important within business units that have a high formalization (e.g., organizations with bureaucratic or competitive values). The acceptance of obtained information may depend on the notion if formal rules have been followed (Olson et al. 1995). Therefore, defined proactive customer-oriented processes to probe latent needs and uncover future needs of customers are very important to increase proactive customer orientation. As an example, new insights obtained by the Marketing Innovation Department from BMW need to pass several internal committee meetings where formal rules are an important decision criteria.

Furthermore the degree of formalization may also reduce the informal interaction with customers and potential customers, which eventually lead to more cognitive processes (Homburg et al. 2007). Moreover internal autonomy and flexibility within business units increases the importance for spontaneous decisions, while formalization decreases its importance. As time is a crucial resource for information processes, the lack of spontaneous decisions increases cognition (Lazarus 1991). Thus the relative importance of proactive customer-oriented processes is assumed to increase when formalization is high:

H₁₇: The relative importance of proactive customer-oriented processes as a driver for (a) exploratory innovation and (b) exploitative innovation is higher in firms with a high formalization than in firms with a low formalization.

Strategic Rigidity and Proactive Customer-Oriented Processes: Strategic rigidity is defined as the degree to which strategy is defined narrowly, is inflexible, discourages

activities outside its scope, and is difficult to change (Mone, McKinley, and Barker 1998). An organization with a rigid strategy has a well-defined and narrowly focused mission statement and competitive strategies that are well suited for stable conditions but are difficult to change when new opportunities arise (Atuahene-Gima et al. 2005). In contrast, an organization with high strategic flexibility has a wide range of mission statements and competitive practices, and is flexible and open to change or adaptation (Johnson, Lee, Saini, and Grohmann 2003).

In organizations with rigid strategy, any activity outside the defined range of products and services is discouraged. Thus strategic rigidity is rather incongruent with a proactive customer-oriented climate (Atuahene-Gima et al. 2005). However, by using processes that aim to probe latent needs and uncover future needs of customers, these needs may be incorporated into an organization's existing domain. As an example, many automotive manufacturers with a rigid strategy, resulting from inflexible production capabilities that are difficult to change, are very engaged in proactive customer-oriented processes (e.g., Society and Technology Research Group from Daimler, Marketing Innovation Department from BMW). Therefore, the relative importance of proactive customer-oriented processes is assumed to increase when strategic rigidity is high:

H₁₈: The relative importance of proactive customer-oriented processes as a driver for (a) exploratory innovation and (b) exploitative innovation is higher in firms with high strategic rigidity than in firms with low strategic rigidity.

5 Hypotheses Testing and Results

This chapter discusses the design and the results of the empirical study that was conducted to test the hypothesized relationships. A cross-sectional study of business units was considered to be the ideal way of inquiry in the current context. Firstly, the quantitative survey complement and co-operate with the explorative research from the previous chapters and the qualitative methods employed in the next chapter to gain richer insights (see Chapter 1.3). Secondly, it is necessary to examine business units from distinct firms and industries to gain insights about different organizational characteristics (e.g., business unit age, business unit size, type of culture). Thirdly, the theories and research traditions from which the hypotheses are derived (e.g., market orientation and innovation management research) are usually based on cross-sectional methods to increase the validity and generalizability of the results. To overcome potential limitations of this research approach, key informant bias and common method bias are addressed with various control mechanisms.

5.1 Data Collection and Sample

The key informant data collection conducted to test my hypotheses is detailed in Chapter 3.5. The sample includes firms within a business-to-business and business-to-consumer setting. The unit of analysis is a business unit within a firm or the entire firm if no specialization into different business units exists. After a follow-up, I received 433 usable questionnaires, for an effective response rate of 14 percent. Eight questionnaires with responses lower than five on two seven-point scales regarding the degree of knowledge about customer needs and innovation processes had to be removed from the sample.

Since there is evidence that data related to organizational aspects obtained from single informants may suffer from validity problems (Kumar, Stern, and Anderson 1993; Van Bruggen, Lilien, and Kacker 2002), I collected additional data from second respondents within the business unit and from customers of the business unit on key constructs. From the 433 key informants, 372 provided their email address and agreed to be contacted. To obtain both additional informant and customer data, the resulting sample was divided into a business-to-business subsample of 191 managers and a business-to-consumer subsample of 181 managers. Additional data from second

respondents were collected in the business-to-consumer subsample, additional data from customers in the business-to-business subsample. Without follow-up, I received 87 usable questionnaires from second informants, for an effective response rate of 48 percent. Data were collected on exploratory innovation, exploitative innovation, customer value creation, and business unit performance. Furthermore I received 51 usable questionnaires from customers judging the firms of the key informants, again without follow-up. Data were collected on perceived proactive customer-orientation, perceived exploratory innovation, perceived exploitative innovation, and perceived customer value.

In summary, my data collection procedure generated a total of 87 cases with responses from two different informants and 51 customer responses related to 34 firms. Although it might have been desirable to confirm the subjective business performance measures, I did not obtain objective financial performance measures from secondary sources because most of the companies in the data set are not publicly listed, and companies typically have reservations about providing such data. Including such measures would likely have reduced the size of the data set.

5.2 Measures and Measurement Assessment

All scales measure the organizational level. If the organization had only one business unit, respondents were asked to focus on the overall firm as the unit of analysis. However, if the organization had multiple units, respondents were asked to focus on their business unit as the unit of analysis. Whenever possible, constructs have been measured with established scales, published in high-ranked international marketing journals, adapted to the specific topic of the study. I followed standard psychometric scale development procedures, pretested the resulting questionnaire and further refined it on the basis of the comments from six marketing managers and seven marketing scholars during the pretest.

Proactive Customer Orientation: Proactive customer-oriented climate was measured with 16 items and proactive customer-oriented processes with 15 items (see Chapter 3 for the detailed scale development process). For every facet of climate (awareness, atmosphere, infrastructure, and guidance) and processes (customer integration, qualitative methods, trend watching, and scenario approaches), I employed a set of two to five items. To keep the number of parameters in my model at a manageable level

while preserving the multifaceted nature of the proactive customer-oriented climate construct, I followed suggestions to use item parcels within the structural model (Bagozzi and Edwards 1998; Little et al. 2002). I averaged the values on the respective scales for each of the four facets and then used these four average values as indicators for the higher-level construct. Thus proactive customer-oriented climate was modeled as a single-factor construct with four indicators, one per dimension. This approach yields a more parsimonious model (Bagozzi and Dholakia 2006). I applied the same measurement approach for proactive customer-oriented processes.

Performance Implications: I measured explorative innovation with five items that captured the extent to which innovations target emerging customers or markets and exploitative innovation with five items that captured the extent to which innovations target the needs of existing customers (Jansen et al. 2006). Customer value from a firm perspective was measured with three items based on the work of Griffin and Page (1993), reflecting customer value perceptions that result from a firm's products or services. To measure subjective business performance, I used a four item scale adapted from Moorman and Rust (1999) and Verhoef and Leeflang (2009). To reduce the impact of abnormal one-time effects on the performance measure, I asked respondents to answer this question with regard to the average performance over the last two years compared to main competitors.

Organizational Antecedents: Future-market focus, the extent to which a firm emphasizes future customers and competitors relative to current customers and competitors, was measured with three items from Tellis, Prabhu, and Chandy (2009). Willingness to cannibalize was measured with four items adapted from Chandy and Tellis (1998), taking into account the revaluation of Danneels (2008) and Tellis et al. (2009). The scale reflects the ability to overcome an important barrier of change, the retention of the status quo. The measure for tolerance for failure included four items adapted from Danneels (2008) and comprises the extent to which failure is seen within the firm as an opportunity to learn. I measured constructive conflict with three items from Danneels (2008), assessing the extent to which interpersonal exchanges by organization members consists of a vigorous debate of ideas, beliefs, and assumptions.

Moderator Variables: I measured business unit size and age with two single indicators, the number of employees within the business unit and the number of years this unit exists. Competing organizational values were measured with newly developed single items (compare to Matsuno and Mentzer 2000). In line with the work of Quinn and Rohrbaugh (1983) and Deshpande, Farley, and Webster (1993), the characteristics of a

competitive, entrepreneurial, bureaucratic, and consensual culture were described, and respondent were asked to choose the description that best fit their firm or business unit. Since organizations may inhibit a mixture of these four organizational culture types (Deshpandé and Farley 2004), respondents were able to choose more than one option. Formalization, defined as the extent to which work roles are structured in an organization and the activities of the employees are governed by rules and procedures, was measured with a scale based on the work from Michaels, Cron, Dubinsky, and Joachimsthaler (1988). Strategic rigidity was measured through a newly developed scale based on Mone et al. (1998) and Atuahene-Gima et al. (2005) to reflect the degree to which strategy is defined narrowly, is inflexible, discourages activities outside its scope, and is difficult to change.

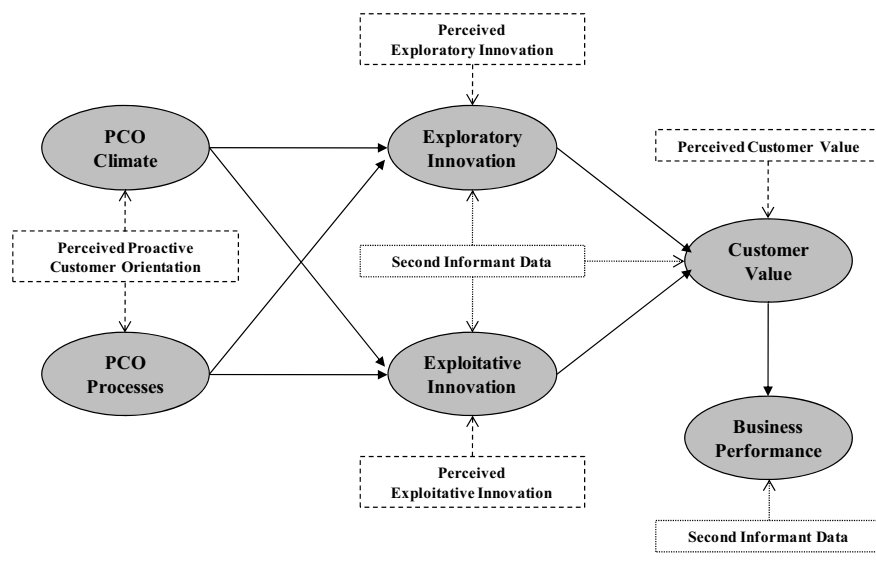
Control Variables: Responsive market orientation was measured with the scale developed and refined by Narver, Slater, and MacLachlan (2004) to assess the extent to which a firm attempts to understand and satisfy expressed customer needs. Technology orientation, defined as the ability and will to acquire a substantial technological background and use it in the development of new products, was measured with a scale adapted from Gatignon and Xuereb (1997). Marketing and R&D spending were measured with single items relative to main competitors. I measured market share as the market share of the participating business unit or firm in its most important market on a scale with eight response categories. I coded industry type as manufacturing (business-to-business), durable consumer goods, fast moving consumer goods, retail, or services (all business-to-consumers).

Additional Customer Measures: In addition to the measures used to survey managers, customer data were collected on perceived proactive customer-orientation, perceived exploratory innovation, perceived exploitative innovation, and perceived customer value, all with newly developed measures. Perceived proactive customer-orientation and perceived customer value were measures with shorter versions of the scales developed by Blocker et al. (2010). Perceived exploratory innovation and perceived exploitative innovation were measured with new scales based on the work of Jansen et al. (2006).

Validation of Multiple Measurement Items: To determine whether aggregating assessments by groups of customers is appropriate, I used the index of within-group interrater reliability (r_{wg}) (James, Demaree, and Wolf 1993). For all constructs assessed by customers, the median r_{wg} values exceed the proposed minimum of .70 (perceived proactive customer-orientation = .78; perceived exploratory innovation

= .75; perceived exploitative innovation = .73; perceived customer value = .81), which justifies the data aggregation (Burke and Dunlap 2002). Thus I averaged the customer responses for each company into a single group composite value for subsequent data analyses (Van Bruggen et al. 2002). The correlation with the equivalent constructs from the key informant data indicate high correlations for proactive customer-orientation (proactive customer-oriented climate: $r = .36$; $p < .03$; proactive customer-oriented processes: $r = .31$; $p < .05$), exploratory innovation ($r = .26$; $p < .05$), exploitative innovation ($r = .33$; $p < .03$), and customer value ($r = .32$; $p < .03$), in support of the validity of the managers' perceptions.

Figure 5–1: Data Pooling and Key Informant Validation



In addition, key informants' assessments of performance implications were compared with the equivalent construct assessments from the second informants. A key issue in the context of multiple respondents per unit pertains to the consistency of the responses. For each dyad and each construct, I calculated the average deviation from the mean $AD_{M(i)}$ (Burke and Dunlap 2002). I then averaged these deviations across all constructs. Kumar, Stern, and Anderson (1993, p. 1638) propose that a difference of

two points on a seven-point scale (which corresponds to an $AD_{M(I)}$ value of one) is a substantial difference. Thus, I excluded five dyads from further analysis because their average $AD_{M(I)}$ value was larger than one (compare to Homburg et al. 2007). I then correlated the remaining key informants' assessments with the equivalent constructs from the second informants. The results indicate high correlations for exploratory innovation ($r = .51; p < .01$), exploitative innovation ($r = .46; p < .01$), customer value creation ($r = .27; p < .03$), and business unit performance ($r = .35; p < .01$), providing further support of the validity of the key informants' perceptions.

To check whether pooling the single-informant and multiple respondent data is appropriate, I ran the main model separately in the subsample of single informants and in the subsample of dyads. The pattern of performance implications was stable across both subsamples; that is, all hypothesized paths were significant. In addition, a test for invariance regarding the structural coefficients in both subsamples showed that the null hypothesis stating that there are no differences regarding the γ coefficients cannot be rejected. In summary, these results support the strategy of pooling the data from both subsamples. Thus, the final sample consists of 420 units. In 82 cases, performance implication information is based on two respondents, and I used single-informant data for the remaining 338 cases (Figure 5–1). Furthermore the customer data on perceived proactive customer-orientation, perceived exploratory innovation, perceived exploitative innovation, and perceived customer value support the validity of the key informants' assessment.

Measurement Assessment: To assess measure reliability and validity of the constructs, I ran confirmatory factor analyses for each factor individually. The corresponding results and all scale items appear in the Appendix. Overall, the results indicate good psychometric properties for all constructs. More specifically, no coefficient alpha values and composite reliabilities are lower than .70, thus meeting or exceeding the recommended thresholds (Bagozzi and Yi 1988). The psychometric properties of all constructs are displayed in the Appendix. Furthermore, I assessed discriminant validity of the key informant measures on the basis of the criterion that Fornell and Larcker (1981) propose. The results indicate that there are no problems with respect to discriminant validity. Summary statistics, including means, standard deviation, correlations, average variance extracted and squared correlations among all variables, appear in Table 5-1. The *Kolmogorov–Smirnov test* supports normality of the distribution for all constructs (all $D \geq 0,35$).

Table 5-1: Means, SD, Correlations, AVE and Squared Correlations

Variable	Mean	SD	AVE	Correlations / Squared Correlations																		
				1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	20
1. Proactive Customer-Oriented Climate	4.49	0.97	0.61	0.58	0.64	0.71	0.76	0.66	0.74	0.68	0.88	0.79	0.60	0.73	0.84	0.67	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2. Proactive Customer-Oriented Processes	3.88	1.01	0.58	0.58**	0.22	0.23	0.17	0.12	0.07	0.08	0.03	0.13	0.33	0.26	0.04	0.09	0.06	0.14	0.01	0.00	0.01	0.00
3. Exploratory Innovation	4.02	1.22	0.64	0.48**	0.47**	0.22	0.20	0.14	0.03	0.11	0.05	0.06	0.19	0.19	0.04	0.16	0.08	0.15	0.00	0.00	0.01	0.01
4. Explorative Innovation	5.24	1.13	0.71	0.46**	0.48**	0.47**	0.17	0.12	0.04	0.03	0.02	0.04	0.26	0.16	0.04	0.04	0.03	0.11	0.01	0.00	0.02	0.00
5. Customer Value	3.93	0.79	0.76	0.48**	0.42**	0.45**	0.41**	0.23	0.03	0.07	0.09	0.12	0.37	0.08	0.09	0.14	0.05	0.04	0.00	0.01	0.00	0.00
6. Business Performance	3.89	0.98	0.66	0.33**	0.34**	0.37**	0.35**	0.48**	0.00	0.02	0.03	0.05	0.11	0.10	0.02	0.04	0.07	0.09	0.08	0.00	0.00	0.01
7. Future Focus	4.45	1.47	0.74	0.17**	0.27**	0.17**	0.21**	0.17**	0.05	0.01	0.02	0.01	0.06	0.03	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00
8. Willingness to Cannibalize	4.05	1.32	0.68	0.28**	0.29**	0.33**	0.17**	0.26**	0.15**	0.11*	0.03	0.09	0.05	0.06	0.03	0.05	0.02	0.04	0.01	0.00	0.00	0.00
9. Tolerance for Failure	4.57	1.31	0.88	0.52**	0.19**	0.21**	0.16**	0.29**	0.16**	0.13*	0.16**	0.28	0.18	0.03	0.10	0.07	0.01	0.00	0.01	0.00	0.00	0.00
10. Constructive Conflict	4.85	1.15	0.79	0.55**	0.35**	0.25**	0.21**	0.34**	0.23**	0.09	0.30**	0.53**	0.22	0.08	0.10	0.08	0.01	0.02	0.00	0.01	0.01	0.00
11. Responsive Market Orientation	5.03	1.04	0.60	0.67**	0.57**	0.43**	0.51**	0.61**	0.33**	0.24**	0.23**	0.42**	0.47**	0.19	0.14	0.16	0.04	0.08	0.00	0.02	0.00	0.00
12. Technology Orientation	4.81	1.29	0.73	0.41**	0.51**	0.44**	0.40**	0.29**	0.32**	0.19**	0.25**	0.18**	0.29**	0.44**	0.02	0.04	0.01	0.20	0.03	0.02	0.00	0.00
13. Formalization	3.29	1.43	0.84	-0.39**	-0.19**	-0.21**	-0.31**	-0.13*	-0.12*	-0.18**	-0.31**	-0.32**	-0.37**	-0.15**	0.04	0.00	0.01	0.01	0.00	0.00	0.00	0.00
14. Strategic Rigidity	2.45	1.75	0.67	-0.37**	-0.30**	-0.40**	-0.21**	-0.38**	-0.20**	-0.13*	-0.22**	-0.26**	-0.28**	-0.40**	-0.20**	-0.21**	0.05	0.01	0.00	0.01	0.00	0.00
15. Marketing Spending	3.02	1.20	n.a.	0.19**	0.24**	0.28**	0.16**	0.22**	0.26**	0.01	0.15**	0.08	0.07	0.19**	0.12*	0.03	-0.21**	0.23	0.05	0.01	0.01	0.01
16. R&D Spending	3.15	1.38	n.a.	0.27**	0.37**	0.38**	0.33**	0.20**	0.29**	0.09	0.19**	0.07	0.15**	0.23**	0.45**	0.10*	-0.11*	0.48**	0.05	0.04	0.01	0.00
17. Market Share	n.a.	n.a.	n.a.	-0.03	0.12*	0.07	0.12*	0.05	0.28**	-0.01	0.08	-0.08	0.00	-0.03	0.17**	-0.10*	0.07	0.23**	0.22**	0.02	0.01	0.01
18. Industry Type	n.a.	n.a.	n.a.	0.12*	0.06	-0.01	0.00	0.12*	-0.03	0.04	-0.05	0.04	0.08	0.15**	-0.14*	-0.05	-0.09	-0.08	-0.19**	-0.13*	0.00	0.00
19. Business Unit Size	7.66	4.323	n.a.	0.01	0.09	0.09	0.13*	-0.04	0.06	0.01	-0.03	-0.05	-0.08	-0.03	0.04	0.05	0.02	0.09	0.10	0.11*	-0.02	0.01
20. Business Unit Age	24.23	31.85	n.a.	-0.05	-0.03	-0.07	-0.02	-0.05	-0.09	0.02	-0.06	0.01	-0.06	-0.04	-0.06	0.05	0.02	-0.09	-0.02	0.09	0.01	0.11*

All mean values refer to a 7-point format (except market share, industry type, business unit size and business unit age); the lower-left triangle elements are correlations among the latent variables ($r = p < .05$ ** = $p < .01$), the upper-right triangle elements are squared correlations.

5.3 Data Analysis Strategy

Three different methods are used to test the hypotheses, including structural equation modeling, hierarchical regressions, and multiple-group analyses (Figure 5–2). The main effects from hypotheses H_1 to H_{12} are estimated by a structural equation model (e.g., Bagozzi and Yi 1988). Structural equation models allow the control for measurement errors by modeling the relationships among multiple independent and dependent constructs simultaneously. Furthermore it allows determining the relative importance of proactive customer-oriented climate and proactive customer-oriented processes for innovation. Several robustness checks are conducted to assess the stability of the findings, including tests of mediation, tests of common method variance, bootstrapping tests, and investigating alternative models. However, due to sample size limitations, it is not possible to include all relevant control variables.

Hierarchical regression, ran separately for each of the two innovation measures, are used to confirm H_1 to H_4 . While not allowing to control for measurement error, this technique offers some complementary benefits to structural equation modeling (e.g., Cohen, Cohen, West, and Aiken 2003). In particular, it allows including control variables, to assess differences between nested models, and determining of R^2 for exploitative innovation and exploratory innovation.

Multiple-group structural equation analyses test the existence of the moderating effects for hypotheses H_{13} to H_{18} . This method deals with moderators indirectly, and allows to examine whether the parameter estimate differs across the groups (e.g., Bollen 1989). Thus, organizational characteristics that affect the relative importance of proactive customer-oriented climate and processes for innovation can be identified.

Figure 5–2: Data Analysis Strategy

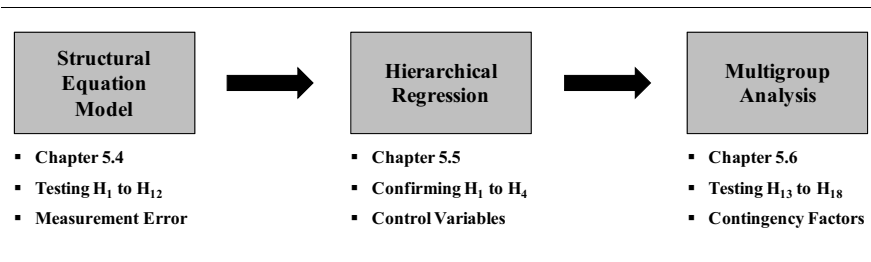
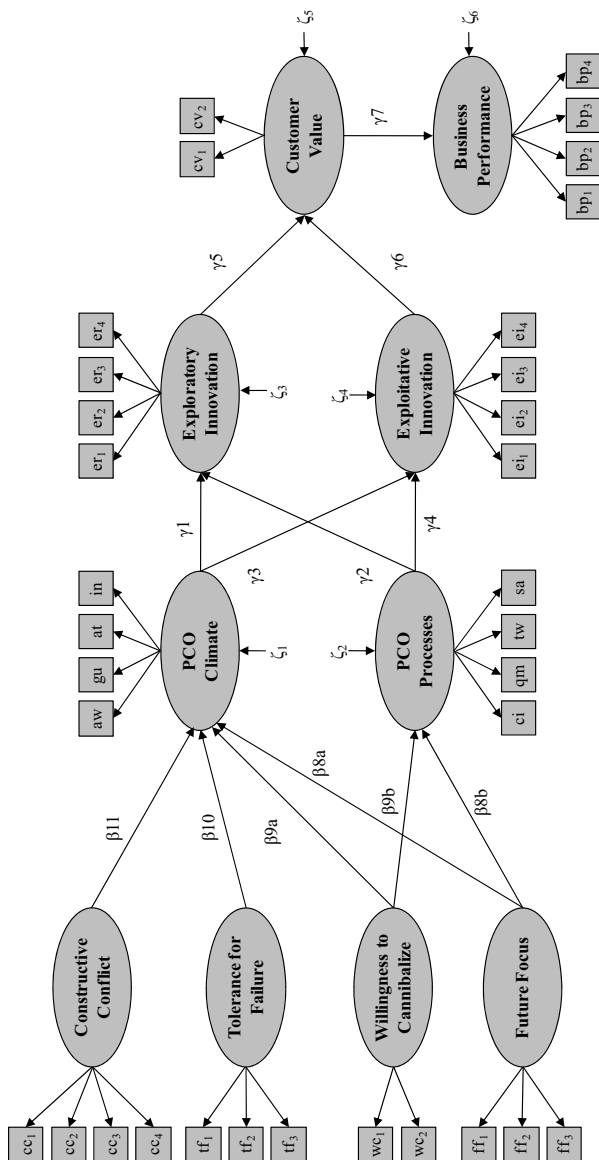


Figure 5-3: Covariance Structure Model



Error terms of items are omitted for clarity.

5.4 Structural Equation Model: Main Effects

The main effects from hypotheses H_1 to H_{12} were estimated by means of structural equation modeling. The resulting covariance structure model of the main effects that translates hypotheses H_1 to H_{12} into a testable statistical structure is displayed in Figure 5–3. I used AMOS 18 to model the structural relationships posited by my theoretical framework. The global fit of the model ($\chi^2/df = 2.62$, comparable fit index = .91, incremental fit index = .91, Tucker-Lewis coefficient = .90, and root mean square error of approximation = .06) indicates an acceptable fit for a complex model (Bagozzi and Yi 1988; Baumgartner and Homburg 1996; Muthen and Kaplan 1985).

Performance Implications: The results support the positive relationship between proactive customer-oriented climate and proactive customer-oriented processes and innovation. As H_1 and H_3 predicted, a proactive customer-oriented climate significantly influences a firm's capability for exploratory innovation ($\gamma_1 = .28$, $p < .01$) and exploitative innovation ($\gamma_3 = .26$, $p < .01$) in a positive direction. Furthermore, as predicted in H_3 and H_4 , proactive customer-oriented processes significantly influences a firm's capability for exploratory innovation ($\gamma_2 = .51$, $p < .01$) and exploitative innovation ($\gamma_4 = .51$, $p < .01$) in a positive direction. Exploratory innovation (H_5 : $\gamma_5 = .23$, $p < .01$) and exploitative innovation (H_6 : $\gamma_6 = .16$, $p < .01$) have a significant, positive impact on customer value. In turn, customer value has a significant, positive effect on business performance (H_7 : $\gamma_7 = .39$, $p < .01$). Taken together, these findings support the proposed sequential pattern of the resource-based view: Proactive customer orientation (strategic resource) → innovation (strategic actions) → customer value (competitive advantage) → business performance.

Test of Mediation: In order to examine the sequential patterns of effects resulting from proactive customer orientation and innovation, formal tests of mediation were performed by means of χ^2 -differences tests (e.g., Bagozzi and Dholakia 2006; Morhart et al. 2009). I tested for direct paths from proactive customer-oriented climate and proactive customer-oriented processes to customer value and business performance, and from exploratory innovation and exploitative innovation to business performance. Three paths led to a significant improvement of model fit compared with the baseline model (Table 5-2): A direct link from proactive customer-oriented climate to customer value, a direct link from exploratory innovation to business performance, and a direct link from exploitative innovation to business performance. Thus, I found support that exploratory innovation and exploitative innovation only partially mediate the effect of

proactive customer-oriented climate on customer value, and that customer value only partially mediates the effect of exploratory innovation and exploitative innovation on business performance.

Table 5-2: Test of Mediation

Model	Goodness-of-Fit	Test of Hypotheses
0. Target Model	$\chi^2(479) = 1293.157$	-
1. PCO Climate → Customer Value	$\chi^2(478) = 1260.255$	$\Delta\chi^2(1) = 32.90, p < .01$
2. PCO Processes → Customer Value	$\chi^2(478) = 1291.632$	$\Delta\chi^2(1) = 1.52, p > .18$
3. PCO Climate → Business Performance	$\chi^2(478) = 1290.713$	$\Delta\chi^2(1) = 2.44, p > .12$
4. PCO Processes → Business Performance	$\chi^2(478) = 1292.466$	$\Delta\chi^2(1) = .69, p > .30$
5. Exploratory Innovation → Business Performance	$\chi^2(478) = 1283.175$	$\Delta\chi^2(1) = 9.98, p < .04$
6. Exploitative Innovation → Business Performance	$\chi^2(478) = 1283.580$	$\Delta\chi^2(1) = 9.57, p < .04$

Proactive Customer-Oriented Climate and Customer Value: The revealed direct path is positive ($\beta = .36, p < .01$). A possible explanation for this is that having a proactive customer-oriented climate within an organization contributes to customer value creation beyond introducing superior offers. More specifically, a proactive customer-oriented climate may result in better customer interactions (Homburg et al. 2009; Saxe and Weitz 1982). Following these authors, a high degree of customer orientation is associated with superior knowledge of customer needs, which determines the quality of employees' customer-oriented behaviors. Thus the attention to customers' latent and future needs within an organization may directly contribute to customer value through a pronounced customer-oriented behavior. As an example, Blocker et al. (2010) found support that customers expect service providers to devote energy towards proactively anticipating their evolving needs, which in turn had a positive effect on customer value perceptions.

Exploratory Innovation, Exploitative Innovation and Business Performance: Both direct paths are positive (exploratory innovation: $\beta = .13, p < .05$, exploitative innovation: $\beta = .12, p < .05$). Possible explanations for these findings can be found in the innovation and marketing literature. Besides increasing value for customers,

exploratory and exploitative innovation may contribute to other variables that increase business performance. Innovations based on customers' latent and future needs may for example: Contribute to channel relationships, which in turn affect a firm's market performance (Kim, Cavusgil, and Calantone 2006); increase the marketing department's influence within an organization, which eventually increases a firm's market performance (Verhoef and Leeflang 2009); or positively influence stock market returns (Sood and Tellis 2009). Thus exploratory and exploitative innovation may contribute to business performance without necessarily affecting customer value.

Organizational Antecedents: The results support that future focus, willingness to cannibalize, tolerance for failure and constructive conflict are organizational antecedents of proactive customer orientation. As H_{8a} and H_{8b} predicted, future focus significantly influences a proactive customer-oriented climate ($\beta_{8a} = .20, p < .01$) and proactive customer-oriented processes ($\beta_{8b} = .38, p < .01$) in a positive direction. As H_{9a} and H_{9b} predicted, willingness to cannibalize has a significant, positive impact on proactive customer-oriented climate ($\beta_{9a} = .23, p < .01$) and proactive customer-oriented processes ($\beta_{9b} = .32, p < .01$). As H_{10} and H_{11} predicted, proactive customer-oriented climate is positively affected by tolerance for failure ($\beta_{10} = .29, p < .01$) and constructive conflict ($\beta_{11} = .29, p < .01$).

Relative Importance of Proactive Customer-Oriented Processes: The magnitude of the path coefficients provides initial support for my hypothesis regarding the relative importance of proactive customer-oriented processes. The effect of proactive customer-oriented processes on exploratory innovation ($\gamma_2 = .51, p < .01$) and exploitative innovation ($\gamma_4 = .51, p < .01$) is stronger than the effect of proactive customer-oriented climate on exploratory innovation ($\gamma_1 = .28, p < .01$) and exploitative innovation ($\gamma_3 = .26, p < .01$). To provide a sound statistical test of H_{12} , I conducted chi-square difference tests to examine whether both effects differ in their strength (e.g., Homburg et al. 2007; Matsuno and Mentzer 2000). First, I tested H_{12a} and constrained the two unstandardized path coefficients under consideration (i.e., γ_1 and γ_2) to be equal. The new, restricted model was nested in the original model which is not subject to this restriction. Therefore I was able to use the chi-square difference test to compare these two models (Bollen 1989; Kline 2005). The null hypothesis in this test is that the two models do not differ in terms of fit with the data. If this null hypothesis is not rejected, then there is no statistical support for differences between the two effects. However, if the null hypothesis is rejected, then this indicates that the magnitudes of the effects differ significantly, in support of H_{12a} . As the restricted

model contains one parameter less than the nonrestricted model, the chi-square difference test is based on one degree of freedom. The critical value on the .05 level is 3.84.

With regard to H_{12a} , the null hypothesis is rejected ($\chi^2_{\text{diff}} = 4.15, p < .05$). This finding, together with the observation that the standardized parameter estimate for the effect of proactive customer-oriented processes is stronger than the one for the proactive customer-oriented climate, supports H_{12a} . Exploratory innovation is more strongly influenced by proactive customer-oriented processes than by proactive customer-oriented climate. Second, I tested H_{12b} in a similar manner. Again, the chi-square difference between the constrained (i.e., $\gamma_3 = \gamma_4$) and the unconstrained (i.e., $\gamma_3 \neq \gamma_4$) models was significant ($\chi^2_{\text{diff}} = 5.10, p < .03$). Thus, the data also support H_{12b} . Exploitative innovation is more strongly influenced by proactive customer-oriented processes than by proactive customer-oriented climate.

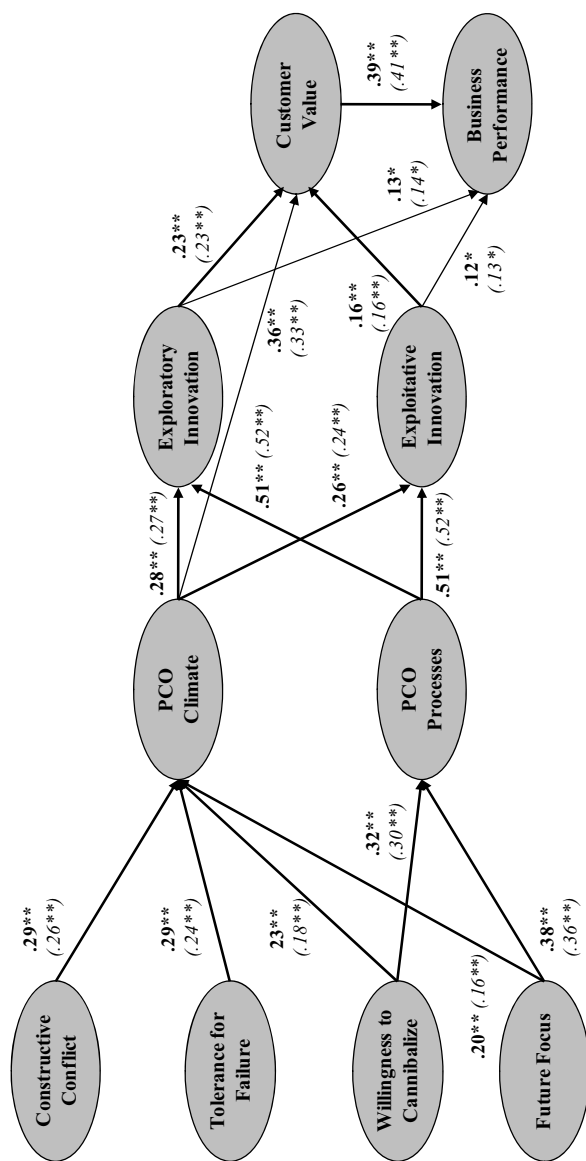
Common Method Variance: Since most of the data had been derived cross-sectionally and from one source, it was necessary to check for the impact of common method variance on the hypothesized relationships. I tested for common method bias with three distinct methods, partial correlation procedure, Harman's single factor test, and controlling for the effects of an unmeasured latent methods factor (e.g., Lindell and Whitney 2001; Malhotra, Kim, and Patil 2006; Podsakoff, MacKenzie, Lee, and Podsakoff 2003). First, I included an item regarding political discussions in the firm ("*We often discuss often about politics in our firm*"), which is not related to the variables in my study. I calculated correlations between this question and the important constructs in the questionnaire and found no significant and very low correlations. Second, an exploratory factor analysis of all included items revealed that 15 factors with an Eigenvalue greater than one are derived and explain 66% of the variance. If one general factor were derived, it would explain only 23% of the variance. Third, the final model was reestimated with an added same source factor that loaded on all constructs. While partial correlation procedure and Harman's single factor test showed no evidence of common method bias, the corrected parameters display that there is some minor effect of common method variance. However, none of the hypothesized relationships were reduced to the point of nonsignificance. In fact, the standardized estimates change only marginal with differences between .00 and .05 (Figure 5-4). Therefore the more parsimonious model without the same source factor is retained.

Stability Tests: Because the correlations between the exogenous variables in my model are comparatively high, there is a risk that the result may not be stable to small changes in the data (e.g. Cohen et al. 2003; Kline 2005). To rule out this risk I reanalyzed the model with 500 data sets, in which 5% of the cases had been removed randomly ("bootstrapping"). The results from the stability tests suggest that the correlations between the exogenous variables do not compromise the validity of the results. For all 500 data sets, the pattern of results inconsistent with my hypotheses ($p < .05$). In addition, mean values across the 500 samples of the standardized parameter estimates are identical to those from the main analysis, while standard deviations are small (with values ranging from .05 to .09).

Alternative Models: I also tested three alternative models that represent distinct conceptualizations of the relationship between antecedents, consequences, and distinct dimensions of proactive customer orientation. Alternative models included are: (a) A solution where all four antecedents loaded on climate as well as processes ($\chi^2/df = 2.69$, CFI = 0.89, IFI = 0.89, TLI = .88, and RMSEA = .06), (b) a solution where both dimensions of proactive customer orientation loaded only on exploratory innovation ($\chi^2/df = 3.02$, CFI = 0.89, IFI = 0.89, TLI = .88, and RMSEA = .07), (c) a solution without innovation where proactive customer orientation loaded directly on customer value ($\chi^2/df = 3.22$, CFI = 0.87, IFI = 0.87, TLI = .86, and RMSEA = .07), and (d) a solution without customer value where exploratory and exploitative innovation loaded directly on business performance ($\chi^2/df = 2.95$, CFI = 0.89, IFI = 0.89, TLI = .88, and RMSEA = .07). Model comparisons with the chi-square difference test indicated that the proposed model performed better than alternative models. Thus, the underlying pattern of the resource-based view is further supported.

In summary, all hypotheses were supported, with parameter estimates significant at least at the 5% error level and in the expected direction. Figure 5–4 shows the fully standardized parameter estimates including the corrected estimates accounting for the effect of common method variance.

Figure 5-4: Results from the Structural Equation Model: Corrected and Uncorrected Standardized Estimates



* = $p < .05$; ** = $p < .01$; standardized estimates are reported; estimates corrected for common method variance are shown in italics and parentheses.

5.5 Hierarchical Regression Analyses with Control Variables

To verify the results of the structural equation model regarding the impact of proactive customer-oriented climate and proactive customer-oriented processes on exploratory innovation and exploitative innovation, I also tested hypotheses H₁ to H₄ using hierarchical regression analyses. While not allowing controlling for measurement error, regression analyses offer some complementary benefits. In particular, I was able to more easily include various control variables and assess differences between nested models. As displayed in Table 5-3, for each dependent innovation variable, I estimated four hierarchical regressions: (1) including just the control variables; (2) adding the dominating organizational values; (3) adding technology orientation, responsive market orientation, formalization, and strategic rigidity; and (4) adding proactive customer-oriented climate and proactive customer-oriented processes. Multicollinearity diagnostics suggest that multicollinearity is not a problem in any of the regressions (all tolerance factors > .45). The regression results mirror those of the structural equation model and indicate that the relationships I hypothesized are not significantly affected by any control variable, thus providing additional support for the importance of proactive customer-oriented climate and proactive customer-oriented processes for innovation.

Proactive Customer Orientation and Exploratory Innovation: Control variables alone explain 18% of variance, among them marketing spending, R&D spending, industry type, and business unit size exhibit positive and significant effects (*Model 1*). When added, the organizational values explain an additional 8% of variance, with bureaucratic and consensual values having negative and significant effects (*Model 2*). The inclusion of technology orientation, responsive market orientation, formalization, and strategic rigidity yields a 15% increase in R². Except for formalization, all three have a positive (i.e., technology orientation, responsive market orientation) or negative (i.e., strategic rigidity) and significant main effect on exploratory innovation (*Model 3*). Proactive customer-oriented climate and proactive customer-oriented processes explain an additional 3% of variance. More interestingly, the relationship between responsive market orientation and exploratory innovation becomes insignificant (*Model 4*). In this model, only R&D spending ($\beta = .15$, $t = 3.04$), consensual values ($\beta = -.16$, $t = -3.45$), technology orientation ($\beta = .15$, $t = 3.04$), strategic rigidity ($\beta = -.21$, $t = -4.91$), and both measures of proactive customer orientation (climate: $\beta = .19$, $t = 3.18$; processes: $\beta = .11$, $t = 2.10$) have significant main effects on exploratory innovation.

Proactive Customer Orientation and Exploitative Innovation: The control variables explain 15% of variance, with R&D spending and industry type having positive and significant effects (*Model 1*). When added, the organizational values explain an additional 3% of variance, with bureaucratic values having negative and significant effects (*Model 2*). The inclusion of technology orientation, responsive market orientation, formalization, and strategic rigidity yields a 17% increase in R^2 . Technology orientation and responsive market orientation have positive and significant main effects on exploitative innovation (*Model 3*). Proactive customer-oriented climate and proactive customer-oriented processes explain an additional 3% of variance. Again, the relationship between responsive market orientation and exploitative innovation decreases. Technology orientation has no significant impact (*Model 4*). In the fourth model, only R&D spending ($\beta = .14$, $t = 2.74$), industry type ($\beta = .14$, $t = 3.53$), responsive market orientation ($\beta = .28$, $t = 4.69$), proactive customer-oriented climate ($\beta = .12$, $t = 1.99$), and proactive customer-oriented processes ($\beta = .16$, $t = 2.92$) have significant main effects on exploitative innovation.

Table 5-3: Hierarchical Regression Analyses with Control Variables

	Exploratory Innovation								Exploitative Innovation							
	Model 1		Model 2		Model 3		Model 4		Model 1		Model 2		Model 3		Model 4	
	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value	β	t-Value
Marketing Spending	0.13	2.50*	0.11	2.14*	0.08	1.79	0.07	1.54	-0.01	-0.16	-0.03	-0.54	-0.03	-0.55	-0.04	-0.82
R&D Spending	0.33	6.36**	0.29	5.89**	0.16	3.19**	0.14	2.94**	0.34	6.44**	0.32	6.07**	0.16	3.06**	0.14	2.74**
Market Share	-0.03	-0.73	-0.02	-0.38	0.01	0.16	0.01	0.16	0.05	1.03	0.06	1.28	0.09	2.02*	0.08	1.93
Industry Type	0.09	2.07*	0.12	2.77**	0.08	2.03*	0.07	1.95	0.17	3.64**	0.18	3.94**	0.14	3.54**	0.14	3.53**
Business Unit Size	0.09	2.00*	0.10	2.25*	0.07	1.91	0.06	1.61	0.06	1.22	0.07	1.49	0.04	1.03	0.03	0.73
Business Unit Age	-0.05	-1.16	-0.02	-0.37	-0.01	-0.37	-0.02	-0.39	-0.02	-0.54	-0.01	-0.20	0.00	-0.02	0.00	-0.06
Entrepreneurial Values			0.05	0.99	0.03	0.69	0.03	0.55	0.00	-0.06	0.00	-0.06	-0.02	-0.48	-0.03	-0.61
Bureaucratic Values			-0.25	-4.79**	-0.10	-2.00*	-0.05	-0.98	-0.21	-3.88**	-0.04	-0.85	-0.04	-0.85	-0.01	-0.14
Competitive Values			-0.10	-1.90	-0.05	-1.11	-0.03	-0.54	-0.07	-1.20	-0.03	-0.60	-0.03	-0.60	-0.01	-0.26
Consensual Values			-0.20	-3.94**	-0.17	-3.69**	-0.16	-3.45**	-0.08	-1.51	-0.08	-1.56	-0.08	-1.56	-0.06	-1.27
Responsive Market Orientation			0.15	2.92**	0.15	2.92**	0.02	0.35	0.39	7.57**	0.02	0.39	0.13	2.58**	0.28	4.69**
Technology Orientation			0.20	4.12**	0.20	4.12**	0.15	3.04**	0.13	2.58**	0.13	2.58**	0.13	2.58**	0.08	1.48
Formalization			-0.04	-0.97	-0.04	-0.97	-0.02	-0.54	-0.04	-0.90	-0.04	-0.90	-0.04	-0.90	-0.03	-0.68
Strategic Rigidity			-0.23	-5.29**	-0.23	-5.29**	-0.21	-4.91**	0.01	0.14	0.01	0.14	0.01	0.14	0.03	0.58
Proactive Customer-Oriented Climate			0.19	3.18**	0.19	3.18**	0.11	2.10**	0.15	3.18**	0.15	3.18**	0.15	3.18**	0.12	1.99*
Proactive Customer-Oriented Processes			0.11	2.10**	0.11	2.10**	0.11	2.10**	0.15	3.18**	0.15	3.18**	0.15	3.18**	0.16	2.92**
R Square	0.18		0.26		0.41		0.44		0.15		0.18		0.18		0.38	
Adjusted R Square	0.17		0.24		0.39		0.41		0.13		0.16		0.16		0.36	
F	15.00**		14.52**		19.96**		19.48**		11.76**		9.15**		9.15**		15.81**	
R Square Change	0.08		0.08		0.15		0.03		0.04		0.04		0.04		0.17	
F Change	11.50**		11.50**		25.03**		9.94**		4.63**		4.63**		4.63**		26.72**	
N	420		420		420		420		420		420		420		420	

** = $p < .01$; * = $p < .05$; standardized estimates; two-tailed tests for control variables and one-tailed tests for all hypotheses.

5.6 Results Related to Moderating Effects: Multiple-Group Analyses

To test the existence of moderating effects for hypotheses H₁₃ to H₁₈, I conducted subgroup analyses and applied multiple-group structural equation analysis to examine whether the parameter estimate differs across the groups (Bollen 1989; Kline 2005). Multiple-group structural equation modeling deals with moderators indirectly. In other words, the empirical criterion is whether there are different values for structural parameters at different values of a moderator (compare to e.g., Baumgartner and Homburg 1996; Homburg et al. 2007; Matsuno and Mentzer 2000).

Consequently, for every hypothesis predicting a moderating effect, several successive steps were required. For business unit age and business unit size I conducted a median split, and for formalization and market-focused flexibility a mean split of the sample along the values of the moderator variable to create two subsamples, one with low values of the moderator and the other with high values of the moderator. For organizational values, I used the self-ratings of the respondents to create four subsamples. Then I analyzed the model implied by my theoretical framework simultaneously in both subsamples using AMOS 18. Due to the smaller sample size in the sub groups, I concentrated on the relevant constructs (i.e., proactive customer-oriented climate, proactive customer-oriented processes, exploratory innovation, and exploitative innovation). Since all moderator hypotheses predict changes in the relative importance of proactive customer-oriented climate or proactive customer-oriented processes as drivers of innovation, I then computed the relative importance in both subsamples ($g = 1$ refers to the subsample in which the value of the moderator is low, and $g = 2$ refers to the subsample in which the value of the moderator is high). Using the respective standardized parameter estimates, I defined importance ($IMP_{\text{climate},g}$) as the ratio of the effect of proactive customer-oriented climate (processes) to the sum of the effects of climate (i.e., γ_{g11}) and processes (i.e., γ_{g12}). Stated formally for the relative importance of proactive customer-oriented climate,

$$(1) \quad IMP_{\text{Climate},g} = \frac{\gamma_{g11}}{\gamma_{g11} + \gamma_{g12}} \times 100\%$$

Chi-square difference tests are used to test statistically whether the relative importance of a proactive customer-oriented climate (processes) as a driver of innovation differs between both subsamples. Therefore, I reran the AMOS analysis with a constraint that forced $IMP_{\text{climate},g}$ (or $IMP_{\text{processes},g}$) to be equal across both subsamples. If the difference between the chi-square goodness-of-fit statistics from both analyses would

be significant, I could conclude that the relative importance of proactive customer-oriented climate (processes) is different in both populations. Because constraining the relative importance to be equal across both groups is associated with the gain of one degree of freedom, the critical value for the chi-square difference test on the .05 level is 3.84.

Business Unit Age and Business Unit Size: As H_{13} predicted, the relative importance of proactive customer-oriented climate for exploratory innovation (H_{13a} : $IMP_{Climate,2} = 47\%$, $IMP_{Climate,1} = 38\%$, $\chi^2_{diff} = 4.84$, $p < .03$) and exploitative innovation (H_{13b} : $IMP_{Climate,2} = 63\%$, $IMP_{Climate,1} = 31\%$, $\chi^2_{diff} = 6.88$, $p < .01$) is higher for business units with a long business history than for business units with a short business history. Regarding H_{14} , I found no support for a significant difference in the relative importance of proactive customer-oriented climate for exploratory innovation (H_{14a} : $IMP_{Climate,2} = 53\%$, $IMP_{Climate,1} = 35\%$, $\chi^2_{diff} = 1.71$, $p > .19$) and exploitative innovation (H_{14b} : $IMP_{Climate,2} = 47\%$, $IMP_{Climate,1} = 44\%$, $\chi^2_{diff} = .47$, $p > .49$) for large business units and small business units. Thus, H_{14} is not supported.

Organizational Values: The relative importance of proactive customer-oriented climate for exploratory innovation (H_{15a} : $IMP_{Climate,Entrepreneurial} = 45\%$, $IMP_{Climate,Bureaucratic} = 0\%$, $\chi^2_{diff} = 3.05$, $p < .08$) and exploitative innovation (H_{15b} : $IMP_{Climate,Entrepreneurial} = 66\%$, $IMP_{Climate,Bureaucratic} = 0\%$, $\chi^2_{diff} = 3.88$, $p < .05$) is higher for firms with dominance of entrepreneurial values over bureaucratic values than for firms with dominance of bureaucratic values over entrepreneurial values. However, the chi-square difference test revealed that the difference postulated in H_{15a} is significant only at the .08 level. Furthermore, I found support that the relative importance of proactive customer-oriented climate for exploratory innovation (H_{16a} : $IMP_{Climate,Consensual} = 100\%$, $IMP_{Climate,Competitive} = 0\%$, $\chi^2_{diff} = 4.13$, $p < .04$) is higher for firms with dominance of consensual values over competitive values than for firms with dominance of competitive values over consensual values. The difference regarding exploitative innovation hypothesized in H_{16b} is not significant (H_{16b} : $IMP_{Climate,Consensual} = 79\%$, $IMP_{Climate,Competitive} = 41\%$, $\chi^2_{diff} = .58$, $p > .45$).

Formalization: H_{17} predicted that the relative importance of proactive customer-oriented processes as a driver of exploratory innovation and exploitative innovation would be higher when formalization is high. While the relative higher importance of proactive customer-oriented processes for exploratory innovation (H_{17a} : $IMP_{Processes,1} = 61\%$, $IMP_{Processes,2} = 36\%$, $\chi^2_{diff} = 3.88$, $p < .05$) is supported for firms with high formalization, the relative higher importance of proactive customer-oriented processes

for exploitative innovation (H_{17b} : $IMP_{Processes,1} = 64\%$, $IMP_{Processes,2} = 60\%$, $\chi^2_{diff} = 2.45$, $p > .11$) is not supported.

Strategic Rigidity: H_{18} predicted that the relative importance of proactive customer-oriented processes as a driver of exploratory innovation and exploitative innovation would be higher when strategic rigidity is high. The results fully support that the relative importance of proactive customer-oriented processes for exploratory innovation (H_{18a} : $IMP_{Processes,1} = 100\%$, $IMP_{Processes,2} = 56\%$, $\chi^2_{diff} = 5.43$, $p < .02$) and exploitative innovation (H_{18b} : $IMP_{Processes,1} = 100\%$, $IMP_{Processes,2} = 47\%$, $\chi^2_{diff} = 12.19$, $p < .01$) is higher for firms with high strategic rigidity than for firms with low strategic rigidity.

Table 5-4 summarizes the results obtained from multiple group analyses. The moderating effects of business unit age, business unit size, dominance of entrepreneurial values over bureaucratic values, dominance of consensual values over competitive values, formalization, and strategic rigidity are displayed in Figure 5-5. All charts display the relative importance of proactive customer-oriented climate or proactive customer-oriented processes for the distinct groups (i.e., low and high moderator value), defined as the ratio of the effect of climate (processes) to the sum of the effects of climate and processes together.

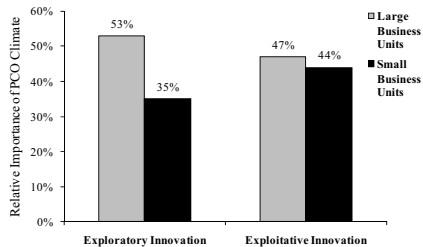
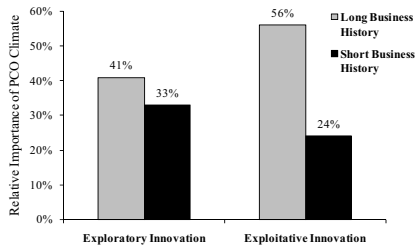
Table 5-4: Results of Multiple Group Analyses

Hypotheses	Equality Constraint	Free Model	Chi-Square Difference	Significance	Value of Moderator	Standard Estimate	Relative Importance
H _{13a} : Business Unit Age × PCO Climate → Exploratory Innovation	$\chi^2 = 598.365$ (d.f. = 201)	$\chi^2 = 593.528$ (d.f. = 200)	$\chi^2_{diff} = 4.836$ (A.d.f. = 1)	$p < .03^*$	Long Business History: Short Business History:	.41** .33**	47% 38%
H _{13b} : Business Unit Age × PCO Climate → Exploitative Innovation	$\chi^2 = 600.411$ (d.f. = 201)	$\chi^2 = 593.528$ (d.f. = 200)	$\chi^2_{diff} = 6.883$ (A.d.f. = 1)	$p < .01^{**}$	Long Business History: Short Business History:	.56** .24**	63% 31%
H _{14a} : Business Unit Size × PCO Climate → Exploratory Innovation	$\chi^2 = 598.705$ (d.f. = 201)	$\chi^2 = 596.992$ (d.f. = 200)	$\chi^2_{diff} = 1.713$ (A.d.f. = 1)	$p > .19$	Large Business Unit: Small Business Unit:	.45** .28**	53% 35%
H _{14b} : Business Unit Size × PCO Climate → Exploitative Innovation	$\chi^2 = 597.464$ (d.f. = 201)	$\chi^2 = 596.992$ (d.f. = 200)	$\chi^2_{diff} = .473$ (A.d.f. = 1)	$p > .49$	Large Business Unit: Small Business Unit:	.34** .42**	47% 44%
H _{15a} : Dominance of Entrepreneurial Values over Bureaucratic Values × PCO Climate → Exploratory Innovation	$\chi^2 = 382.289$ (d.f. = 201)	$\chi^2 = 379.234$ (d.f. = 200)	$\chi^2_{diff} = 3.054$ (A.d.f. = 1)	$p < .08^{\dagger}$	Entrepreneurial Values: Bureaucratic Values:	.27* -.22 (n.s.)	45% 0%
H _{15b} : Dominance of Entrepreneurial Values over Bureaucratic Values × PCO Climate → Exploitative Innovation	$\chi^2 = 383.116$ (d.f. = 201)	$\chi^2 = 379.234$ (d.f. = 200)	$\chi^2_{diff} = 3.882$ (A.d.f. = 1)	$p < .05^*$	Entrepreneurial Values: Bureaucratic Values:	.62** -.09 (n.s.)	66% 0%
H _{16a} : Dominance of Consensual Values over Competitive Values × PCO Climate → Exploratory Innovation	$\chi^2 = 376.783$ (d.f. = 201)	$\chi^2 = 372.651$ (d.f. = 200)	$\chi^2_{diff} = 4.132$ (A.d.f. = 1)	$p < .04^*$	Consensual Values: Competitive Values:	.83** .25 (n.s.)	100% 0%
H _{16b} : Dominance of Consensual Values over Competitive Values × PCO Climate → Exploitative Innovation	$\chi^2 = 373.234$ (d.f. = 201)	$\chi^2 = 372.651$ (d.f. = 200)	$\chi^2_{diff} = .583$ (A.d.f. = 1)	$p > .45$	Consensual Values: Competitive Values:	.82** .29*	79% 41%
H _{17a} : Formalization × PCO Processes → Exploratory Innovation	$\chi^2 = 571.745$ (d.f. = 201)	$\chi^2 = 567.865$ (d.f. = 200)	$\chi^2_{diff} = 3.879$ (A.d.f. = 1)	$p < .05^*$	High Formalization: Low Formalization:	.61** .36**	82% 44%
H _{17b} : Formalization × PCO Processes → Exploitative Innovation	$\chi^2 = 570.312$ (d.f. = 201)	$\chi^2 = 567.865$ (d.f. = 200)	$\chi^2_{diff} = 2.446$ (A.d.f. = 1)	$p > .11$	High Formalization: Low Formalization:	.43** .54**	64% 60%
H _{18a} : Strategic Rigidity × PCO Processes → Exploratory Innovation	$\chi^2 = 532.278$ (d.f. = 201)	$\chi^2 = 526.850$ (d.f. = 200)	$\chi^2_{diff} = 5.428$ (A.d.f. = 1)	$p < .02^{**}$	High Strategic Rigidity: Low Strategic Rigidity:	.54** .31**	100% 56%
H _{18b} : Strategic Rigidity × PCO Processes → Exploitative Innovation	$\chi^2 = 539.035$ (d.f. = 201)	$\chi^2 = 526.850$ (d.f. = 200)	$\chi^2_{diff} = 12.185$ (A.d.f. = 1)	$p < .01^{**}$	High Strategic Rigidity: Low Strategic Rigidity:	.56** .35**	100% 47%

Figure 5–5: Moderating Effects

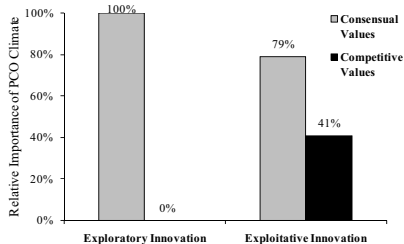
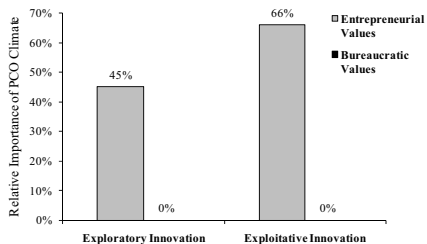
H₁₃: Business Unit Age × PCO Climate → Innovation

H₁₄: Business Unit Size × PCO Climate → Innovation



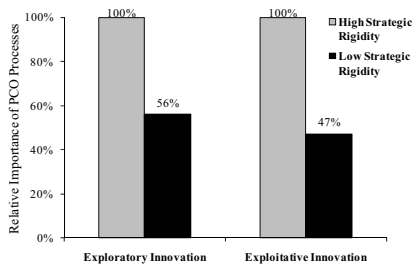
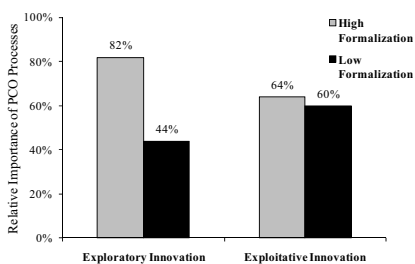
H₁₅: Dominance of Entrepreneurial Values over Bureaucratic Values × PCO Climate → Innovation

H₁₆: Dominance of Consensual Values over Competitive Values × PCO Climate → Innovation



H₁₇: Formalization × PCO Processes → Innovation

H₁₈: Strategic Rigidity × PCO Processes → Innovation



5.7 Summary of Results

The empirical study has helped to clarify how managers can successfully probe latent needs and uncover future needs of customers. Table 5-5 summarizes the corresponding findings and the results of the hypotheses testing. The theoretical framework of proactive customer orientation, superior offers, competitive advantage, and organizational characteristics developed in Chapter 4 is therefore supported with the findings.

Following the sequential pattern of the resource-based view, *proactive customer orientation* leads to innovation, which in turn leads to customer value, and eventually to superior business performance. In addition, I found a direct positive path from proactive customer-oriented climate to customer value, and two direct positive paths from exploratory innovation and exploitative innovation to business performance. Furthermore I identified four *organizational values* that serve as antecedents of proactive customer orientation. While future focus and willingness to cannibalize increase both proactive customer-oriented climate and proactive customer-oriented processes, tolerance for failure and constructive conflict lead to a higher proactive customer-oriented climate.

The results also support the notion that *exploratory innovation and exploitative innovation* are more strongly influenced by proactive customer-oriented processes than by proactive customer-oriented climate. However, there are several *organizational characteristics* that moderate the relative importance of proactive customer-oriented climate and proactive customer-oriented processes. The importance of proactive customer-oriented climate increases for business units that have a long business history and inhibit dominance of entrepreneurial values over bureaucratic values, or of consensual values over market values, respectively. The importance of proactive customer-oriented processes increases for business units that have a high degree of formalization or high strategic rigidity.

The obtained insights regarding the performance implications, organizational antecedents, and contingency factors of proactive customer orientation provide answers to the third, fourth, and fifth research goals. In the following chapter, the obtained insights will be combined with qualitative inquiries and transformed into a managerial roadmap helping firms to systematically achieve a high level of proactive customer orientation.

Table 5-5: Results of Hypotheses Testing

Performance Implications of a Proactive Customer Orientation		
H ₁ : PCO Climate → Exploratory Innovation		H ₁ supported
H ₂ : PCO Processes → Exploratory Innovation		H ₂ supported
H ₃ : PCO Climate → Exploitative Innovation		H ₃ supported
H ₄ : PCO Processes → Exploitative Innovation		H ₄ supported
H ₅ : Exploratory Innovation → Customer Value		H ₅ supported
H ₆ : Exploitative Innovation → Customer Value		H ₆ supported
H ₇ : Customer Value → Performance		H ₇ supported
Antecedents of Proactive Customer-Oriented Climate and Processes		
H _{8a} : Future Market Focus → PCO Climate		H _{8a} supported
H _{8b} : Future Market Focus → PCO Processes		H _{8b} supported
H _{9a} : Willingness to Cannibalize → PCO Climate		H _{9a} supported
H _{9b} : Willingness to Cannibalize → PCO Processes		H _{9b} supported
H ₁₀ : Tolerance for Failure → PCO Climate		H ₁₀ supported
H ₁₁ : Constructive Conflict → PCO Climate		H ₁₁ supported
Relative Importance of Proactive Customer-Oriented Climate and Processes		
H _{12a} : PCO Processes → Exploratory Innovation > PCO Climate → Exploratory Innovation		H _{12a} supported
H _{12b} : PCO Processes → Exploitative Innovation > PCO Climate → Exploitative Innovation >		H _{12b} supported
Firm Age, Firm Size and Proactive Customer-Oriented Climate		
H _{13a} : Business Unit Age × PCO Climate → Exploratory Innovation		H _{13a} supported
H _{13b} : Business Unit Age × PCO Climate → Exploitative Innovation		H _{13b} supported
H _{14a} : Business Unit Size × PCO Climate → Exploratory Innovation		H _{14a} not supported
H _{14b} : Business Unit Size × PCO Climate → Exploitative Innovation		H _{14b} not supported
Organizational Values and Proactive Customer-Oriented Climate		
H _{15a} : Dominance of Entrepreneurial Values over Bureaucratic Values × PCO Climate → Exploratory Innovation		H _{15a} supported ¹⁴
H _{15b} : Dominance of Entrepreneurial Values over Bureaucratic Values × PCO Climate → Exploitative Innovation		H _{15b} supported
H _{16a} : Dominance of Consensual Values over Competitive Values × PCO Climate → Exploratory Innovation		H _{16a} supported
H _{16b} : Dominance of Consensual Values over Competitive Values × PCO Climate → Exploitative Innovation		H _{16b} not supported
Formalization and Proactive Customer-Oriented Processes		
H _{17a} : Formalization × PCO Processes → Exploratory Innovation		H _{17a} supported
H _{17b} : Formalization × PCO Processes → Exploitative Innovation		H _{17b} not supported
Strategic Rigidity and Proactive Customer-Oriented Processes		
H _{18a} : Strategic Rigidity × PCO Processes → Exploratory Innovation		H _{18a} supported
H _{18b} : Strategic Rigidity × PCO Processes → Exploitative Innovation		H _{18b} supported

¹⁴ All hypotheses supported at $p < .05$ except H_{15a} ($p < .10$).

6 Creating Proactive Customer Orientation: A Managerial Roadmap

In the previous chapters, insights about climate and processes that lead to proactive customer orientation, the performance implications resulting from proactive customer orientation, organizational antecedents that support a proactive customer orientation and organizational characteristics that determine the relative importance of proactive customer-oriented climate and proactive customer-oriented processes have been achieved. However still little is known of how firms may systematically achieve a high level of proactive customer orientation, and about typical patterns of market-based innovations that firms may follow. Thus the first part of this chapter develops a systematic change process to increase proactive customer orientation, based on the qualitative as well as quantitative inquiries of this work. The obtained insights suggest four-steps to develop and benefit from proactive customer orientation. The second part consists of a cluster analysis resulting in different patterns of market-based innovations. The third part introduces typical firms for each pattern and provides situation-specific recommendations of how firms should optimize their proactive customer orientation.

6.1 Developing Proactive Customer Orientation

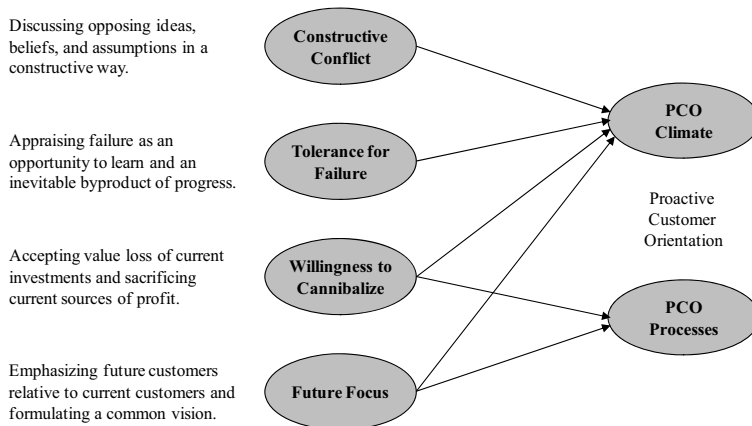
Dealing with the latent and future needs of customers is different from dealing with expressed needs, mainly because it often takes place in unstructured environments where the rules of the market have yet to be written. The importance of developing a systematic proactive customer orientation have been pointed out by Hamel and Prahalad (1994, p. 5): "Any company that succeeds at restructuring and re-engineering, but fails to create the markets of the future, will find itself on a treadmill, trying to keep one step ahead of the steadily declining margins and profits of yesterday's businesses." Based on the insights from my own qualitative and quantitative investigations on proactive customer orientation, and in consideration of models for strategic foresight from other disciplines (e.g., Fink, Marr, Siebe, and Kuhle 2005; Schwartz 1991; Zeithaml et al. 2006), I suggest a four-step process to develop proactive customer orientation: Overcoming organizational barriers, creating a

proactive customer-oriented climate, implementing proactive customer-oriented processes, and developing offerings that fit customers' latent and future needs.

6.1.1 Overcoming Organizational Barriers

The first step in developing proactive customer orientation is the overcoming of organizational barriers within the firm. Much too often, organizational characteristics constrain proactive customer-oriented activities. To be successful in creating a pronounced proactive customer orientation, the interviewed experts highlighted the importance of four organizational values to overcome internal barriers, motivate employees, and maintain the necessary resources. All four values have been supported by the empirical study. In particular, future focus and willingness to cannibalize increased both proactive customer-oriented climate and proactive customer-oriented processes, and tolerance for failure and constructive conflict increased proactive customer-oriented climate (Figure 6–1).

Figure 6–1: Overcoming Organizational Barriers



Increasing Constructive Conflict: To increase constructive conflict within an organization, interpersonal exchanges need to focus on vigorous debate of ideas, beliefs, and assumptions. Opposing views need to be openly discussed, focusing on issues rather than on people. Firms may use an internal Wiki with a code of ethics for

anonymous discussions where employees can post constructive comments regardless of interpersonal relationship or hierarchal level. An example is the collaboration Wiki from IBM, where employees exchange ideas, information and feedback on innovative topics (IBM 2010). Such actions increase constructive conflict and support a proactive customer-oriented climate.

Increasing Tolerance for Failure: Tolerance for failure needs to be anchored foremost at the top management to avoid a punitive culture. More specifically, failures in addressing the wrong latent and future needs have to be accepted as the inevitable byproduct of progression. While a certain amount of tolerance for failure will certainly encourage a proactive customer-oriented climate, too much tolerance may also lead to laxness and lack of responsibility. Hence, an optimal level of tolerance for failure may exist. However, due to the positive linear effect that was found in the empirical study, the surveyed firms are below this optimum and should increase tolerance towards failed projects. A possible approach to increase tolerance is 3M's innovation culture where researchers are given wide latitude to pursue research down whatever alleys they wished. Furthermore 3M explicitly tolerate mistakes, as stated in their firm philosophy (3M 2010b).

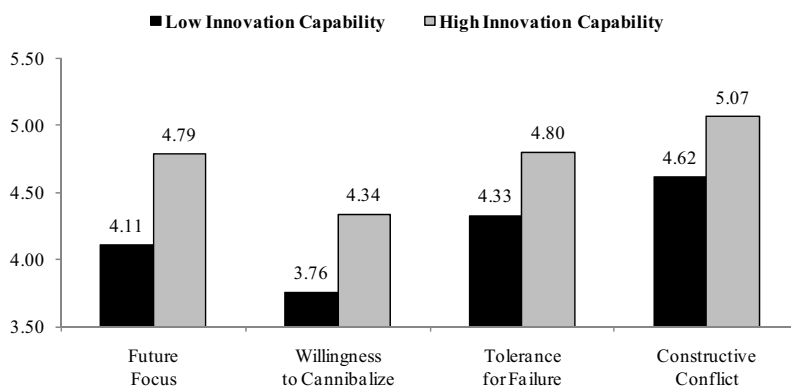
Increasing Willingness to Cannibalize: Willingness to cannibalize is another important value and describes the extent to which a firm is prepared to reduce the actual or potential value of its investments, be it in products, patents, or other resources. To achieve this willingness, firms need to continuously challenge current resources and investments. Obviously this is mainly a duty of the top management. An example of a firm that is prospering because it was willing to cannibalize its outdated resources is Toys 'R' Us, who launched an online venture that took away sales from their brick and mortar stores (Useem 1999). However, overall the company profited from cannibalizing sales at their brick and mortar stores because they were able to address the emerging customer needs of home shopping. Microsoft pointed out the general importance of this value in a recent statement: "*If we don't cannibalize our existing business, others will*" (Microsoft 2010).

Increasing Focus on the Future: Furthermore firms need to emphasize future customers to current customers. A common vision may help to raise the awareness of latent and future needs. This also includes future-open thinking, for example being willing to "unlearn the idea that a single predictive future exists" (Fink et al. 2005, p. 361), and being able to hold the possibility of multiple futures simultaneously. To increase their future focus, employees may regularly meet with external experts to

discuss important developments that have an impact of the firm's future. Examples are the Innolab meetings of Stabilo, where marketers, researcher, and external experts discuss unusual and absurd ideas of the future (Knipper 2009).

The findings from the empirical survey emphasize the importance of all these organizational values: Firms with a high innovation capability also have a high degree of future focus, willingness to cannibalize, tolerance for failure, and constructive conflict (Figure 6–2).

Figure 6–2: Organizational Values and Innovation Capability

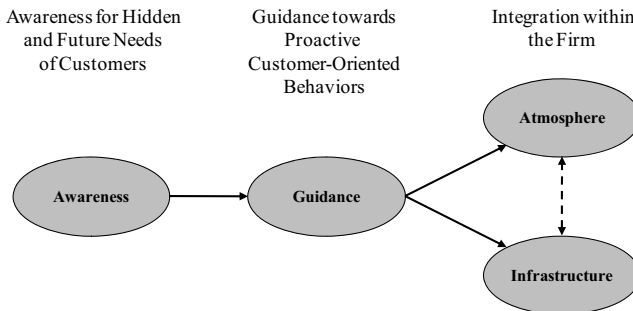


6.1.2 Creating a Proactive Customer-Oriented Climate

The next step towards proactive customer orientation is to create a proactive customer-oriented climate. To do so, firms have to consider the four sub dimensions, namely awareness for hidden and future needs, guidance towards proactive customer-oriented behaviors, and building an atmosphere as well as an infrastructure that integrates a proactive customer-oriented climate within the firm (Figure 6–3). A pronounced proactive customer-oriented climate is especially important for successful firms with a long business history and for firms dominated by entrepreneurial or consensual values.

Creating Awareness for Proactive Customer Orientation: To raise the awareness for hidden and future needs at the top management level, Hamel and Prahalad (1994, p. 3) suggest a set of particular questions, for example, "What percentage of your time is spent on external, rather than internal, issues like understanding the implications of a particular new technology? Of this time spent looking outward, how much of it is spent considering how the world could be different in five or ten years, as opposed to worrying about winning the next big contract or how to respond to a competitor's pricing move? Of the time devoted to looking outward and forward, how much of it is spent in consultation with colleagues, where the objective is to build a deeply shared, well tested view of the future, as opposed to a personal and idiosyncratic view?" However awareness of the top management is only the first part, subsequently the awareness needs to spread among all employees. Possible measures to raise awareness are rather official discussions about the future of customers or hall talk about potential customer needs. An impressive example to raise awareness for future needs was the "T-Com-Haus" of Deutsche Telekom in Berlin, aimed to depict the lifestyle of future generations (Telekom 2010). Through its wide popularity, all employees from Deutsche Telekom were motivated to think about future needs of their customers, and how to address these needs with products and services.

Figure 6–3: Creating a Proactive Customer-Oriented Climate within the Firm



Guiding towards Proactive Customer Orientation: After raising the awareness, employees need to be guided towards being proactive customer-oriented. The best way for managers to guide them is to live the importance and be a good role model. One

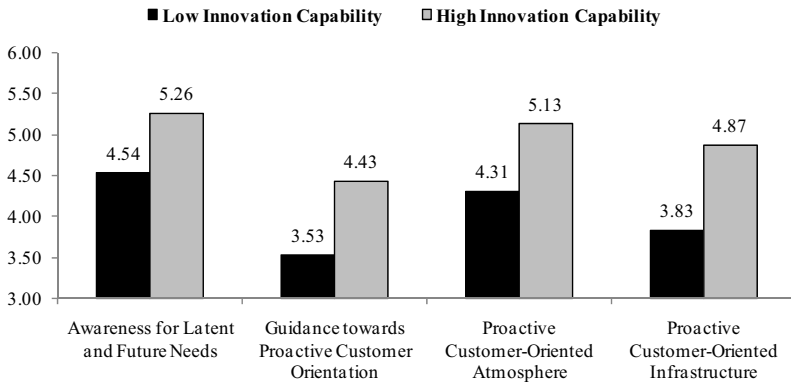
example for such a behavior is displayed by Ferdinand Piech, chairman of Volkswagen AG, who drove with a 1-liter car to the annual stockholder meeting (Volkswagen 2010). In addition, managers may use stories, anecdotes, and myths to point out the importance of latent and future needs. One example for such a company myth that is used to emphasize the importance of satisfying latent and future needs is 3M's story about the invention of the Post-it note (3M 2010a): In 1968, the reusable, pressure sensitive adhesive was accidentally developed. For five years, the invention was promoted within 3M, both informally and through seminars, but without much success. In 1974, a colleague of the developer who had attended one of the seminars came up with the idea of using the adhesive to anchor his bookmark in his hymnbook. 3M launched the product in 1977, but it failed, as consumers had not tried it. A year later, 3M issued free samples and 90 percent of the people who tried them said that they would buy the product. By 1980, the product was first being sold in the US and then in the rest of the world, eventually becoming 3M's most popular product.

Creating an Atmosphere of Proactive Customer Orientation: When employees are guided, the atmosphere within the firm should help to integrate proactive customer-oriented behaviors of employees. The atmosphere is determined, among others, through the characteristics of workplaces, meeting rooms and offices, or other facilities. Examples for a proactive customer-oriented atmosphere can be found in specialized departments from major firms (Knipper 2009). The Technology Research Group of Daimler described its workplaces as looking like the team office of architects, a marketing agency or a small, lively research institute. At the Telekom Laboratories, employees work in a futuristic environment with widespread technical support and without assigned workplaces. Besides opening employees for the future, this environment should also enhance interactivity among them. Hamel and Prahalad (1994, p. 104) note that "companies possessed of extraordinary foresight are typically companies with rich cross-currents of interfunctional and international dialogue and debate."

Creating an Infrastructure for Proactive Customer Orientation: Furthermore the infrastructure should motivate employees, facilitate exchange, and provide direction towards proactive customer orientation. This includes guidelines regarding the collection of insights about latent and future needs, early warning systems, regular discussions about upcoming environmental changes, and awarding employees that successfully identify needs before they were articulated by customers. Examples for awards are the corporate rewards and recognitions at 3M, where a peer nomination and

peer driven system motivates engineers and scientists doing future- and customer-oriented work (3M 2010b). An early warning systems and regular discussions can be found at Hilti, where members of the corporate development department regularly meet to discuss upcoming needs of their customers (Müller 2008). These meetings include employees from different departments and support exchange among them. A central contact point that deals with insights about latent and future needs can be found at the MIL of BMW Group (Kruthoff 2005). Here distinct innovation managers act as knowledge accumulators that collect insight and spread them within the company.

Figure 6–4: Proactive Customer-Oriented Climate and Innovation Capability



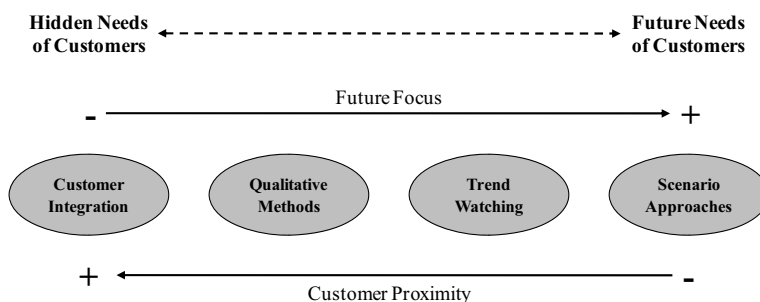
The empirical survey points out that firms with a high innovation capability are also associated with a high degree of awareness for hidden and future needs, guidance towards proactive customer-oriented behaviors, proactive customer-oriented atmosphere, and proactive customer-oriented infrastructure (Figure 6–4).

6.1.3 Implementing Proactive Customer-Oriented Processes

Based on proactive customer-oriented climate, proactive customer-oriented boundary spanning processes need to be implemented. Four different groups of methods can be

used, customer integration, qualitative methods, trend watching, and scenario approaches (Figure 6–5). While customer integration and qualitative methods are characterized by a high customer proximity but rather low future focus and suitable for latent needs, trend watching and scenario approaches are characterized by a high future focus but rather low customer proximity, and therefore suitable for future needs. A frequent application of proactive customer-oriented processes is especially important for firms with a high degree of formalization and strategic rigidity.

Figure 6–5: Boundary Spanning Processes of Proactive Customer Orientation



Applying Customer Integration: Firstly, customers can be integrated into innovation or development processes of the firm to gain insights about latent needs. This may take place in various forms, including the integration of customers into early innovation stages, incorporating feelings and preferences of customer during product development, accompanying customers in their daily life to learn about the use of products, or working closely together with lead users. For example, developers of 3M work shoulder to shoulder with customers in the Customer Innovation Center to solve their problems (Tripsas 2009). The idea behind the centers is to foster innovation by combining a richer understanding of customer needs with creative links among 3M technologies, as stated a senior innovation manager: "*Being customer-driven doesn't mean asking customers what they want and then giving it to them. It's about building a deep awareness of how the customer uses your product*" (Gulati 2010, p. 7). For instance, 3M and the Visteon Corporation, an automotive supplier that is one of its customers, have worked together in the development of a next-generation concept vehicle that incorporates 3M technologies not originally developed with automotive

applications in mind. Visteon's visit to the innovation center, combined with follow-up collaboration, led to the idea of using 3-D technology from 3M for navigation displays, Thinsulate materials to reduce noise, and optical films to hide functional elements of the dashboard unless the driver wants them displayed (Tripsas 2009).

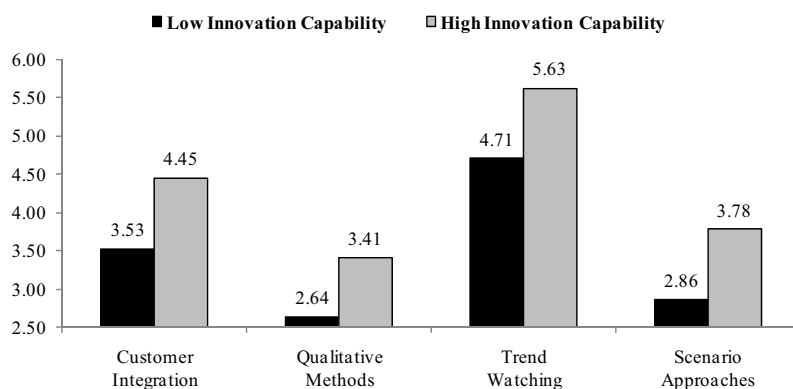
Applying Qualitative Methods: Secondly, in-depth qualitative methods can be deployed to gain insights about the underlying motivation and desires of customers to uncover latent and future-oriented needs. These qualitative methods include conducting future-oriented focus groups with experts, projective methods to gain insights into customers' latent needs, conducting virtual tests of concepts and products, and carrying out market tests with prototypes. As examples, many companies such as Nokia, Volvo, Microsoft, and BMW have established online customer forums and use the information from these online environments to help them develop new products and processes (Nambisan and Nambisan 2008). By interacting with customers, Nokia has tapped into innovative design concepts. Similarly, Volvo has accelerated its product development by involving customers in virtual product concept tests. Microsoft has realized considerable savings by having expert customers provide product support services to other customers. Finally, BMW has a Customer Innovation Lab in which it gives customers online design tools to develop their own ideas related to telematics and driver-assistance systems.

Applying Trend Watching: Thirdly, trend watching can be used to gain insights about upcoming and rather future needs of customers. Corresponding methods monitor technological trends and changes in the behavior of customers and include peripheral vision capability, strategic issue management, and scanning of relevant trends. Trends, including those that seem peripheral, change consumers' aspirations, attitudes, and behaviors in ways that may not be obvious (Ofek and Wathieu 2010). The digital revolution, an important trend of the last years, has led people to value offerings that provide instant gratification and help them multitask. For example, BMW uses regular trend updates with internal and external experts to update on upcoming and future needs of customers (Kruthoff 2005). Not only general trends are discussed, also the most important trends for BMW's specific situation are identified.

Applying Scenario Approaches: Fourthly, scenario approaches are appropriate to gain insights about possible future needs of customers. These methods generate a set of potential futures and determine their impact on a company and its offerings, including scenario management techniques, identifying new markets with the umbrella method, determining the impact of unforeseeable events, and analyzing future developments

with roadmapping techniques. As an example, the Institute for Mobility Research, a think tank of Deutsche Bahn and BMW, developed scenarios for the future of passenger and freight mobility in Germany 2030 (IFMO 2010). Another example for a scenario approach is the creation of a future strategic plan for the nation's car industry in Australia. Roadmapping was used to carry out a full review which mapped the technology and manufacturing capabilities and development opportunities for the country's automotive industry from the present day to 2025 and beyond (van der Duin 2006).

Figure 6–6: Proactive Customer-Oriented Processes and Innovation Capability



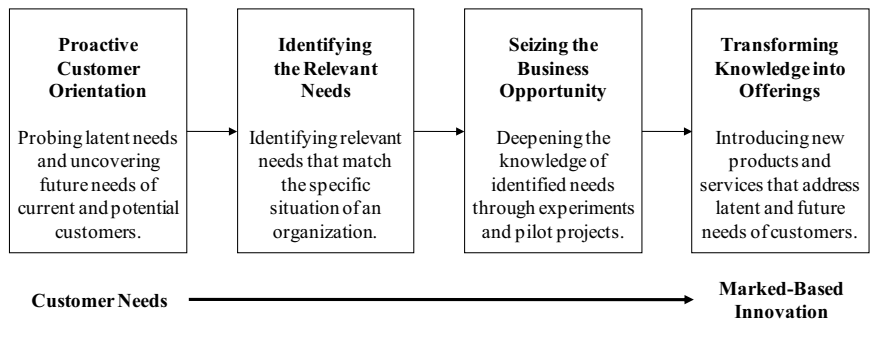
The empirical survey points out that firms with a high innovation capability are associated with a higher usage of customer integration, qualitative methods, trend watching, and scenario approaches (Figure 6–6).

6.1.4 Developing Market-Based Innovations

Although supporting organizational values, proactive customer-oriented climate, and proactive customer-oriented processes are vital to gaining insights about customer needs and attaining a competitive advantage, they do not shape performance directly.

Customers do not purchase a product or pay for a service simply because a company has profound insights about hidden and future needs. Instead, the described values, climate, and processes contribute to the development of superior offers that fit customers' latent and future needs. Thus creating proactive customer orientation is only the first step. Unlike for supply-pushed innovation (also referred to as technology-driven innovation), proactive customer orientation is crucial for market-based innovations. On the one hand, it leads to creative new ideas (exploratory innovation). On the other hand, it leads to a creative rearrangement of existing resources, for example bundling or unbundling of products and services (exploitative innovation). To successfully develop market-based innovations based on latent and future needs, relevant needs that match with the specific situation have to be identified, the knowledge of the identified needs have to be deepened, and products and services that address the latent and future needs have to be introduced.

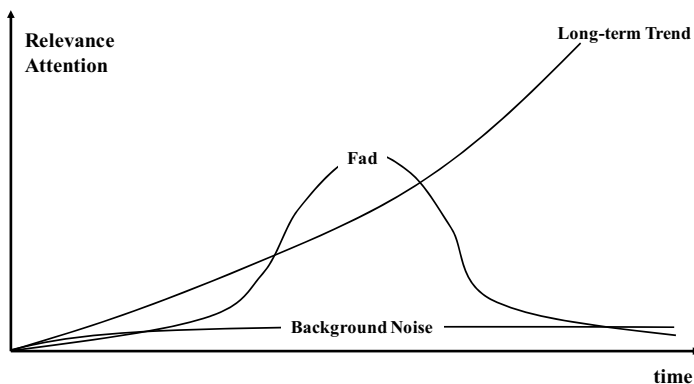
Figure 6–7: Developing Market-Based Innovations



Identifying the Relevant Needs: Given that many business environments are characterized by increased market information inflows and a high degree of complexity and dynamism, the task of identifying relevant needs that match the specific situation is particularly important. If a firm fails in doing so, it wastes resources and harms its performance. Rather firms should aim to evaluate the sustainability of changing customer needs, determine their firm-specific potential, and select the right needs for further processing. Potential customer needs have to be interpreted through a process of sorting, classification, and simplification to assess their distinct potential (Schögel 2007). Such an interpretation is facilitated by decision

rules and a standardized process for filtering the input. Furthermore, results of identifying relevant needs should be continuously observed and evaluated to ensure objectivity and accurateness of decisions.

Figure 6–8: Identifying Sustainable Developments in Customer Needs¹⁵



Therefore firms should deploy a two-step process to identify relevant needs worth addressing and assess their general and firm-specific implication. In a first step, firms have to distinguish the input obtained through proactive customer orientation into sustainable trends, fads and background noise. Long-term trends indicate an increasing relevance over time. In contrast, a fad also gains importance in the short view, but loses relevance as quickly as it appeared. In addition to long-term trends and fads, developments that continuously appear but do not gain enough relevance to pay off are summed up under the term background noise. These kinds of developments are repeatedly discussed, but not proven as central and relevant. Nevertheless, firms should monitor all potential upcoming needs within the background noise and look out for additional developments that may amplify their importance. Following Ries and Trout (1993), a fad does not last long enough to do a firm much good and should be ignored. Regarding long-term developments in customer needs they stated that "the best and most profitable thing to ride in marketing is a long-term trend" (Ries and

¹⁵ According to Ries and Trout (1993) and Schögel (2005).

Trout 1993, p. 123). Hence, sustainable long-term trends have to be identified for further proceeding (Figure 6–8).

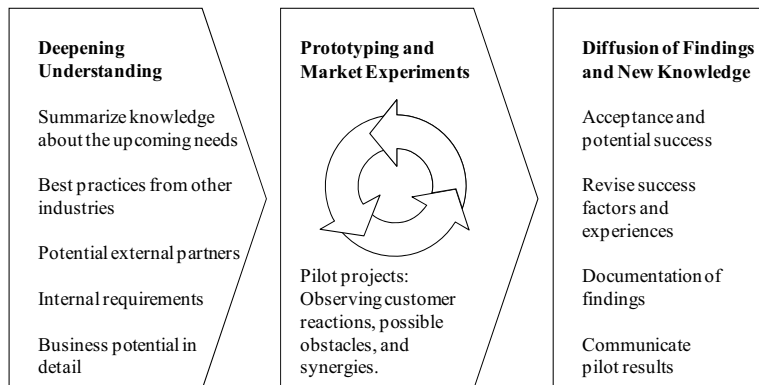
In a second step the appropriateness of an identified latent or future need has to be determined. Whereas the first step was a general assessment of the importance, now the specific situation of the firm has to be taken into account. As a consequence of the firm-specific consideration, simply imitating new developments from other firms is not an equivalent alternative. For example, BMW uses various studies and analyses together with partners, such as universities, trend scouts, and cooperating firms, to rate the relevance of potential upcoming needs (Schögel et al. 2003). If an upcoming need appears relevant and appropriate it typically will be processed in a project, incorporating a project leader responsible for the next step in which a firm has to seize upon the relevant needs.

Seizing the Business Opportunity: After identifying relevant needs that match with the specific situation of a firm, its requirements, execution, and consequences have to be further examined. To reduce the risk of failure, firms should conduct pilots of products and services that address latent and future needs under controlled circumstances and distribute the new knowledge and findings within the firm. Thus, seizing is defined as carrying out the necessary processes to seize upon business opportunities when they appear (Teece 2007). This includes capabilities to integrate different functions, perspectives, and values to evaluate the business potential of new ideas in detail (Figure 6–9). Once a new opportunity is identified, it must be addressed through a new program, product, process, or service. Hence, seizing requires investments in development and commercialization activities, typically with a pilot project. It is important to notice that multiple and competing investment paths are possible and need to be considered, at least in an early stage.

The first part, deepening the understanding, includes a preliminary evaluation of the potential contribution to business performance. The second part, rapid prototyping, is determined by the competency of conducting a pilot. Here, the potential solutions typically leave the boundaries of a project team and be deployed in adequate surroundings with customers, employees and external experts. During the pilot, customer reactions, possible obstacles, and synergies should be monitored. The diffusion of findings and knowledge determines the third part of seizing, the competency of learning from pilot projects. Here, links with existing initiatives and projects should be determined. To raise awareness, the documentation and

communication of findings within the firm is important. Still the new products and services need to be implemented into the market environment.

Figure 6–9: Seizing the Business Opportunity¹⁶



Transforming Knowledge into Offerings: There are three general strategies to transform the knowledge about latent and future needs of customers into offerings: (1) Infuse new aspects to augment traditional offerings, (2) combine new aspects with existing attributes to produce radical new offerings, and (3) counteract negative effects by developing products and services that reaffirm existing values (Ofek and Wathieu 2010). After determining the importance of upcoming needs and deepening the knowledge regarding its implications, managers have to decide which of the three innovation strategies to use. When the basic value proposition of products or services continues to be meaningful for consumers, the infuse and augment strategy will allow firms to reinvigorate their offerings. An example is Coach who introduced lower-priced, youthful handbags to address the caution of consumer spending and their desire to energized and inspired (Coach 2010). If further analyses reveal a growing disconnect between existing offerings and consumers' new focus, innovations need to transcend to integrate the two worlds. An example is Nike with its Nike+ sports kit and web service that addresses changing needs regarding mutual sport experiences of customers (Nike 2010). Finally, if aspects of existing offerings clash with undesired

¹⁶ According to Schögel (2007).

changes emerging from upcoming needs and developments, there is an opportunity to counteract those changes by reaffirming the core values of products or services. An example is iToys with its ME2 video game, which encourages children to be physically active and addresses parents' concerns that video games were turning their children into couch potatoes (iToys 2010).

Table 6-1 summarizes the recommendations of how firms may systematically achieve a high level of proactive customer orientation and provides answers to the first research goal. Although these are valuable new insights, there is more than one way that leads to superior performance. Organizations must strive to identify and combine the most important drivers of exploratory and exploitative innovations effectively. Thus, the next chapter identifies different patterns of strategy that result in market-based innovations and provides detailed recommendations to managers of how they can increase their firm's ability to probe latent needs and uncover future needs within a specific situation.

Table 6-1: Building Proactive Customer Orientation and Developing Market-Based Innovations: Recommendations for Managers

Objective	Recommendations based on Research Findings
<i>Overcoming Organizational Barriers</i>	
Increasing Constructive Conflict	<ul style="list-style-type: none"> ▪ Debate ideas, beliefs, and assumptions in an informal manner within your department. ▪ Collaborate among different functions and hierarchical levels. ▪ Use an internal Wiki with a code of ethics for anonymous discussions.
Increasing Tolerance for Failure	<ul style="list-style-type: none"> ▪ Accept failures as the inevitable byproduct of progression, value smart mistakes. ▪ Avoid a punitive culture; do not blame the responsible employees. ▪ Give developers some time to research down whatever alleys they wished without expecting immediate results.
Increasing Willingness to Cannibalize	<ul style="list-style-type: none"> ▪ Be prepared to reduce the actual or potential value of your investments. ▪ Be aware that shifting the focus from current customer needs to exploring new needs may sacrifice current sources of profit in the short run. ▪ Question continually the prevailing routines in your firm.
Increasing Focus on the Future	<ul style="list-style-type: none"> ▪ Emphasizes future customers to current customers, they are your future stream of revenue. ▪ Unlearn the idea that a single predictive future exists, be open to a wide range of

possible developments.

- Meet regularly with external experts to discuss important developments that have an impact of your firm's future.

Creating a Proactive Customer-Oriented Climate within the Firm

Creating Awareness for PCO

- Ask yourself how much of your time you spent on external rather than internal issues and on how the world could be different in five or ten years.
- Exchange with your colleagues to build a deeply shared, well tested view of the future.
- Initiate official discussions and talk about the future of your customers and their potential upcoming needs.

Guiding towards PCO

- Live the importance of future customers and be a good role model.
- Use stories, anecdotes, and myths to point out the importance of fulfilling latent and future needs of your customers.
- Establish laws and hidden rules to support proactive customer orientation.

Creating an Atmosphere of PCO

- Build offices in a style that supports communication and informal exchange.
- Provide your employees a futuristic work environment.
- Use external facilities that are related to the environment of your customers.

Creating an Infrastructure for PCO

- Denominate a central contact point that deals with latent and future needs.
- Discuss upcoming environmental changes regularly to ensure an early warning system for latent and future needs.
- Award employees that successfully identify needs before they were articulated by customers.

Implementing Proactive Customer-Oriented Boundary Spanning Processes

Applying Customer Integration

- Integrate your customers into early innovation stages and incorporate the feelings and preferences of your customer during product development.
- Accompany your customers in their daily life to learn about the use of products.
- Work closely together with lead users that recognize customer needs months or even years before the majority of the market recognizes them.

Applying Qualitative Methods

- Conduct future-oriented focus groups with employees, experts and customers.
- Use projective methods to gain insights into customers' latent needs.
- Carry out market tests and virtual tests of concepts, products, and prototypes.

Applying Trend Watching

- Monitor trends in society that signal changes in your customers' needs.
- Scan technological trends that may impact the needs of your customers.
- Engage in strategic issue management and be aware of peripheral developments in other markets or industries.

Applying Scenario Approaches

- Generate a set of potential futures and determine their impact on your company and your offerings.
- Identify new markets with the umbrella method.

-
- Analyze future developments with roadmapping techniques.
-

Developing Market-Based Innovations

Increasing PCO	<ul style="list-style-type: none"> ▪ Overcome organizational barriers. ▪ Create a proactive customer-oriented climate within the firm. ▪ Implement proactive customer-oriented boundary spanning processes.
Identifying the Relevant Needs	<ul style="list-style-type: none"> ▪ Evaluate the sustainability of changing customer needs and sort them according to their general importance, employ decision rules, and a standardized process. ▪ Determine the specific potential of changing needs for your firm and detail them according to their specific importance. ▪ If an upcoming need appears relevant and appropriate for you, denominate an employee responsible for the next steps.
Seizing the Business Opportunity	<ul style="list-style-type: none"> ▪ Deepen the understanding of the changing needs, including a preliminary evaluation of the potential contribution to your business performance. ▪ Conduct a pilot and monitor customer reactions, possible obstacles, and synergies with existing processes and resources. ▪ Document and communicate your findings within your firm to raise acceptance for the resulting new products or services.
Transforming Knowledge into Offerings	<ul style="list-style-type: none"> ▪ Infuse aspects of upcoming needs into existing products and services to augment traditional offerings. ▪ Combine aspects of upcoming needs with attributes of existing product and services to produce radical offerings that transcend traditional offerings. ▪ Counteract negative effects of upcoming needs by developing products and services that reaffirm the values of traditional offerings.

6.2 Patterns of Market-Based Innovations: Cluster Analysis

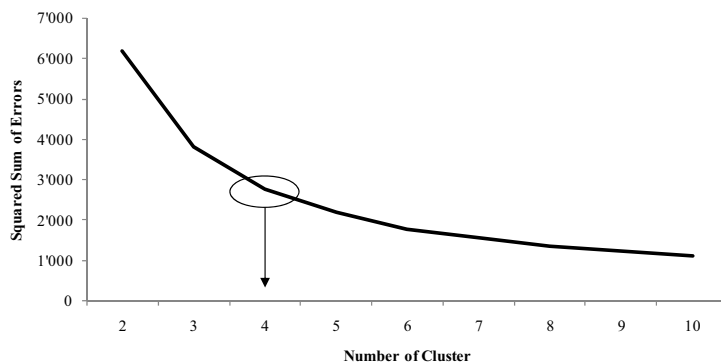
Following the framework of this study, proactive customer-oriented climate and proactive customer-oriented processes are important antecedents for market-based innovations. However, there are other drivers, and organizations usually face resource constraints and therefore must strive to identify and combine the most important drivers of market-based innovations effectively. This section addresses this practical challenge by identifying typical patterns of market-based innovations and their associated performance outcomes.

Besides proactive customer-oriented climate and processes, and in line with previous literature, responsive customer orientation and technology orientation are added to describe the patterns of innovation orientation (e.g., Atuahene-Gima 1996; Narver et al. 2004; Zhou et al. 2005). Furthermore the degree of specialization and external

cooperations may affect the innovation strategy (Schögel 2007). Whereas specialists are dedicated employees focused upon latent and future needs, generalists are engaged in proactive customer-oriented activities besides their day-to-day work. The degree of proactive customer-oriented external cooperations is the engagement of an organization with external partners to probe latent and uncover future needs (e.g., Dhanaraj and Parkhe 2006; Ritter and Gemünden 2003).

The data were obtained from the same sample and with the same method described in Section 5.1 and include 420 firms. To test for different patterns of market-based innovations, I employed a four-stage clustering approach, building on the procedure outlined in previous literature (e.g., Bunn 1993; Cannon and Perreault 1999; Ketchen and Shook 1996). The clustering procedure consists of four steps: (1) Eliminating statistical outliers, (2) identifying the number of clusters, (3) assigning observations to clusters, and (4) assessing the stability of the cluster solutions.

Figure 6–10: Suggestion of a Four Cluster Solution



I used SPSS 15 for the calculations. In the first step, a single-linkage clustering algorithm was performed to identify outliers in the data set. Following the results, five of the 420 observations had been eliminated, for an elimination rate of 1.19%. In the second step, the elbow criterion and the pseudo- t^2 index (Duda and Hart 1973) were deployed in combination with the hierarchical clustering algorithm developed by Ward (1963). The results suggest four distinct clusters of firms (Figure 6–10).

Table 6-2: Statistical Cluster Description

Cluster	ANOVA Significance	Resource Constrained Innovator	Technology Driven Innovator	Integrated Innovator	Network Innovator
	n = 415	n = 64 (15%)	n = 137 (33%)	n = 112 (27%)	n = 102 (25%)
Cluster Variables					
PCO Climate	.00	3.38 c	4.47 b	4.95 a	4.75 (a)
PCO Processes	.00	2.91 c	3.83 b	4.15 (a)	4.31 a
Responsive Market Orientation	.00	3.79 c	5.03 b	5.51 a	5.32 a
Technology Orientation	.00	3.09 c	5.40 a	5.00 b	5.02 b
Dedicated PCO Employees	.00	4.77 b	2.34 d	5.53 a	3.54 c
External PCO Cooperations	.00	1.97 b	2.04 b	2.24 b	5.45 a
Outcome Variables					
Exploratory Innovation	.00	3.07 c	3.98 b	4.33 a	4.37 a
Exploitative Innovation	.00	4.16 c	5.26 b	5.61 a	5.50 a,b
Customer Value	.00	3.21 c	3.94 b	4.23 a	4.04 a,b
Business Performance	.00	3.23 c	3.78 b	4.17 a	4.14 a
Cluster Description					
Marketing Spending	.01	2.64 b	2.99 a,b	3.11 a,b	3.26 a
R&D Spending	.00	2.33 c	3.72 a	3.07 b	3.26 b
Market Share	.02	3.91 b	4.34 a,b	4.17 b	4.82 a
Industry Type (B2B vs. B2C)	.56	0.52 (n.s.)	0.49 (n.s.)	0.50 (n.s.)	0.58 (n.s.)
Business Unit Size	.07	1'109 b	316 c	338 c	1'647 a
Business Unit Age (Years)	.66	26.78 (n.s.)	21.47 (n.s.)	24.83 (n.s.)	25.41 (n.s.)
Organizational Values					
Entrepreneurial Values	.00	0.17 c	0.31 b	0.41 a,b	0.47 a
Bureaucratic Values	.00	0.48 a	0.18 b	0.09 c	0.20 b
Consensual Values	.00	0.19 b	0.31 a,b	0.42 a	0.22 b
Competitive Values	.05	0.28 b	0.47 a	0.38 b	0.35 b

Reported values are mean values. In each row, cluster means that have the same superscript are not significantly different ($p < .05$), according to Duncan's and Waller's multiple-range test. Means in the highest bracket are assigned a, means in the next lower bracket b, and so forth.

A hybrid approach was adopted to assign the observations to distinct clusters in step three. I applied the k-means method, building on the solution from Ward's algorithm, because the k-means procedure yields exceptional results if given a reasonable starting solution (Milligan and Cooper 1987). In the fourth step, the resulting cluster solutions were cross validated using the procedure recommended by Cannon and Perreault (1999). Therefore I split the sample into three subsamples of equal size (A, C with $n = 138$; B with $n = 139$) and undertook the clustering procedure twice for combined subsamples (First clustering of combined subsamples A and B, then clustering of combined subsamples B and C). Finally, the observations in subsample B were

evaluated of whether they appear in the same cluster for both runs. This was the cases for 83% of the observations, suggesting stable solutions.

Table 6-3: Verbal Cluster Description

Cluster	Resource Constrained Innovator	Technology Driven Innovator	Integrated Innovator	Network Innovator
	n = 64 (15%)	n = 137 (33%)	n = 112 (27%)	n = 102 (25%)
Cluster Variables				
PCO Climate	low	medium	very high	high
PCO Processes	low	medium	high	very high
Responsive MO	low	medium	high	high
Technology Orientation	low	high	medium	medium
Dedicated PCO Employees	medium	very low	high	low
External PCO Cooperations	low	low	low	high
Outcome Variables				
Exploratory Innovation	low	medium	high	high
Exploitative Innovation	low	medium	high	moderately high
Customer Value	low	medium	high	moderately high
Business Performance	low	medium	high	high
Cluster Description				
Marketing Spending	low	medium	medium	high
R&D Spending	low	high	medium	medium
Market Share	low	medium	low	high
Industry Type (B2B vs. B2C)	n.a.	n.a.	n.a.	n.a.
Business Unit Size	medium	low	low	high
Business Unit Age (Years)	n.a.	n.a.	n.a.	n.a.
Organizational Values				
Entrepreneurial Values	low	medium	moderately high	high
Bureaucratic Values	high	medium	low	medium
Consensual Values	low	medium	high	low
Competitive Values	medium	high	medium	medium

An important issue for cluster analysis involves verifying whether the clusters offer meaningful interpretations (e.g., Ketchen and Shook 1996; Rich 1992; Stock and Zacharias 2010). Table 6-2 provides statistical descriptions of the clusters; Table 6-3 offers a verbal description. I proposed that firms exhibit different patterns of market-based innovations that comprise proactive customer-oriented climate, proactive customer-oriented processes, responsive market orientation, technology orientation, specialization, and external cooperations. The cluster analysis reveals that four different patterns of market-based innovations exist. The single variables for the distinct dimensions achieve different levels in most of the four configurations. Thus,

firms can be distinguished according to their particular patterns of market-based innovations.

To interpret the clusters, labels were assigned to them, which serve didactic purposes by emphasizing the distinctive empirical aspects of each cluster and facilitate their discussion. The labels include resource constrained preserver, technology driven innovator, integrated innovator, and network innovator.

Resource Constrained Innovator: All four orientation variables, proactive customer-oriented climate, proactive customer-oriented processes, responsive market orientation, and technology orientation, rank as the lowest for this cluster. Furthermore exploratory innovation, exploitative innovation, customer value, and business performance are all lowest. This cluster also has the lowest marketing spending and R&D spending. With regard to the overall pattern, the missing emphasis on market-based innovations and the high amount of bureaucratic values suggest a centralized, structure-driven orientation. However, these companies do not implement responsive market orientation and proactive technology orientation, neither do they apply proactive customer-oriented activities, which implies that they focus on internal sources of innovations, or do not explicitly innovate at all. These activities, together with the very low spending for marketing and R&D, characterize them as "Resource Constrained Innovator", representing 15% of the surveyed firms.

Technology Driven Innovators: Proactive customer-oriented climate, proactive customer-oriented processes, and responsive market orientation are medium-ranked. The degree of dedicated employees and proactive customer-oriented external cooperations exhibit the lowest score among all clusters. Exploratory innovation, exploitative innovation, customer value, and business performance are all in a medium range. This cluster has medium marketing spending and high R&D spending. However, firms in this cluster have a very pronounced technology orientation, which is the type's most dominant characteristic. It appears that technological advantage is their main source of innovation, and thus they are entitled "Technology Driven Innovator", representing 33% of the surveyed firms.

Integrated Innovators: This cluster scores medium on technology orientation, high on proactive customer-oriented processes and responsive market orientation, and highest on proactive customer-oriented climate. Furthermore exploratory innovation, exploitative innovation, customer value, and business performance are all highest. Marketing spending and R&D spending is medium, business unit size and market

share are low. The overall pattern seems to be mainly driven by dedicated employees without extensive external cooperations. Entrepreneurial as well as consensual values are the dominating organizational values. These characteristics, together with the very high proactive customer-oriented climate, lead to the description "Integrated Innovator", representing 27% of the surveyed firms.

Network Innovators: The last cluster experiences a medium level of technology orientation and high levels of proactive customer-oriented climate and responsive market orientation, and it scores highest on proactive customer-oriented processes. Furthermore exploratory innovation, exploitative innovation, customer value, and business performance are all high, with a special emphasis on exploratory innovation. Marketing spending, business unit size and market share are highest among all clusters, and R&D spending is medium. Entrepreneurial values are the dominating organizational values. Opposed to the former cluster, the overall pattern seems to be mainly driven by extensive external cooperations and less by dedicated employees. Due to these characteristics and the very high use of proactive customer-oriented processes the cluster is named as "Network Innovator", representing 25% of the surveyed firms.

The insights from the cluster analysis, resulting from similarities and differences among the four types of market-based innovation strategies, are detailed below:

- The cluster analysis reveals four selective types of market-based innovation strategy, labeled as Technology Driven Innovator (33%), Integrated Innovator (27%), Network Innovator (25%), and Resource Constrained Innovator (15%).
- The four types differ regarding their degree of proactive customer-oriented climate, proactive customer-oriented processes, responsive customer orientation, technology orientation, degree of dedicated employees, and proactive customer-oriented cooperations with external sources.
- Integrated and network innovation strategy attain the highest scores on business performance. This finding provides further support for the importance of proactive customer orientation for market-based innovations.
- Interestingly, the four clusters do not differ in industry affiliation or business history, suggesting that external circumstances do not strongly affect the market-based innovation strategy.

Due to the different patterns of market-based innovation strategies, all four types exhibit distinct emphases of their resources and thus require situation-specific recommendations of how to increase their customer orientation. Based on the case studies of four firms, each representing one of the four clusters, the following section provides guidelines for the distinct situations.

6.3 Typical Market-Based Innovation Strategies: Case Studies

Four distinct firms will be described to illustrate the different patterns of market-based innovation and to determine situation-specific recommendations for managers. Cases were selected based on the transparent observability of the topic of interest, the potential for learning, and the representativeness of the firm for the related pattern of market-based innovation (Eisenhardt 1989). The sample includes Katjes GmbH as a Resource Constrained Innovator, Phonak GmbH as a Technology Driven Innovator, GE Healthcare as an Integrated Innovator, and BMW Group as a Network Innovator. Qualitative research does not recommend the use of singular sources of data collection when conducting case studies, rather the multiple sources of evidence are a major strength of case study research (Yin 2008). Therefore the four cases rely on interviews with responsible managers, publications about the firms, information obtained from web pages, and the analysis of existing internal documents. Moreover, the author has gained work experience at the International Marketing Department of Katjes GmbH and conducted several workshops on proactive customer-oriented topics with Phonak GmbH and BMW Group. The data sources are summarized in the Appendix.

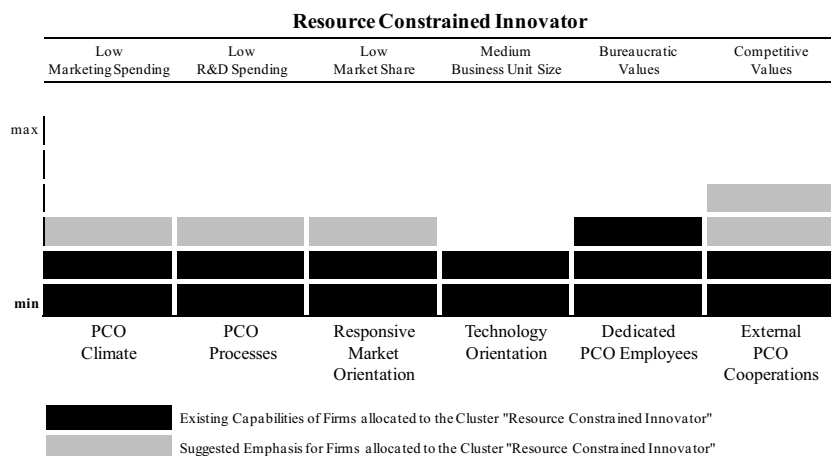
6.3.1 Resource Constrained Innovator: Katjes GmbH

Katjes is examined as an example for a Resource Constrained Innovator. Firms in this cluster typically have rather low levels of proactive customer-oriented climate, proactive customer-oriented processes, responsive market orientation, technology orientation, and proactive customer-oriented cooperations. In addition, they have a medium level of dedicated proactive customer-oriented employees (Figure 6–11). These firms are characterized with low marketing spending, low R&D spending, low market share, medium business units, and dominance of bureaucratic and competitive values. While Katjes is in many respects a typical Resource Constrained Innovator in

comparison to its main competitor, it does not employ dedicated proactive customer-oriented employees.

Context of Katjes: Katjes is a licorice and fruit gums producer, and the third largest manufacturer in the German confectionery market behind Haribo and Storck, with a market share around 6.5%. Its assortment include licorice, fruit gums, yogurt gums, and hard candies, sold under its brands Katjes, Sallos, Ahoj-Bräuse Bonbons, Gletscher Eis, and Grannini. The company has 500 employees, produces annually 60,000 tons of sweets, and achieves an estimated sales volume of \$270 million. However, Katjes is faced with a very strong competitor, Haribo, with estimated annual revenue of €1.8 billion, about 6,000 employees, and a market share of above 60%. Compared to the financial possibilities and resources of its main competitor, Katjes is a Resource Constrained Innovator.

Figure 6–11: Typical Profile of a Resource Constrained Innovator¹⁷



¹⁷ Katjes differs to the typical profile of a Resource Constrained Innovator in respect to its missing dedicated proactive customer-oriented employees.

Proactive Customer Orientation of Katjes: Although Katjes was able to successfully target latent and future needs in the past (e.g., fat free gums), its current proactive customer orientation is very low. Examples where the company fails to target upcoming needs of customers include the advertisement disaster with Rainer Calmund (Dengel 2010), the ambitious excursion into the chocolate business that ended in 2008 after only one year as a flop, and the simultaneous introduction of 20 new products in 2009 that all failed to meet the tastes of customers. Not surprisingly, Katjes neither has a proactive customer-oriented climate and nor does it apply proactive customer-oriented processes.

Responsive Market Orientation at Katjes: In addition, Katjes also struggles to become a responsive market-oriented company. Most of its products are sold by retailers, sometimes even as private labels, and the amount of direct customer contact is low. Due to the constraint resources, market information is mainly based on secondary sources (e.g., planet retail, GFK). Since these sources are also available for competitors, no unique insights about current customer needs are obtained. However, the company recently opened Katjes-Shop located directly in the city centers of Munich, Aachen, and Essen to establish direct contact points with customers which will likely increase its responsive market orientation.

Technology Orientation at Katjes: Within the sweet and fruit gum market, new and innovative technological developments are rather uncommon. For many decades, the basic production process has remained the same. Moreover, every technological innovation is accompanied by cease and desist letters as well as me-too products of competitors (Dengel 2010). Thus technological orientation contributes little to market-based innovations in this industry.

Dedicated Proactive Customer-Oriented Employees and External Proactive Customer-Oriented Cooperations at Katjes: Because of its resource constraints, Katjes neither uses dedicated proactive customer-oriented employees nor dedicated external proactive customer-oriented cooperations. All issues concerning latent and future needs of customers are processed by generalists within the marketing department, sometimes in cooperation with employees of retail chains.

Main Challenges and Recommendations for Katjes: Katjes inhibits room for improvement in all categories and currently rather fails to probe latent and uncover future needs of customer. To increase proactive customer orientation and introduce market-based innovations would be important because Katjes' core business with licorice and jelly is suffering from the competition of cheap brands and private labels. However, due to the constrained resources, not all capabilities can be maximized. The primary focus should be the initiation of external proactive customer-oriented cooperations. Besides providing new insights and ideas, these cooperations may also positively affect proactive customer-oriented climate and proactive customer-oriented processes. In a next step, Katjes may directly work on its climate and processes and try to increase proactive customer orientation with efficient measures. Furthermore responsive market orientation should be increased by introducing additional direct touch points. Opening Katjes-Shops in city centers is a resource-intensive but nevertheless effective measure. The recommendations to increase proactive customer orientation and emphasize market-based innovations are summarized below for Katjes' specific situation:

- Initiate proactive customer-oriented cooperations with other companies and experts. Within such cooperations, insights can be shared, discussed, and evaluated. An example for a possible outline are the Innolab meetings of Stabilo, where marketers, researcher, and external experts discuss the future (Knipper 2009).
- Create awareness for proactive customer orientation. The first step towards a higher proactive customer-oriented climate is to initiate and promote official discussions and hall talk about the future of customers and their potential upcoming needs.
- Apply trend watching processes. From all available proactive customer-oriented processes, trend watching may provide the best insights compared to the necessary resources (Ofek and Wathieu 2010). In considering important trends, including those that seem peripheral, consumers' changing attitudes and behaviors may be identified.
- Introduce direct customer touchpoints to increase responsive market orientation. To come closer to their customers and learn more about their needs, Katjes may expand its brand stores, build a brand community, or introduce a direct channel.

Conclusion and Suggestions for Resource Constrained Innovators: The case of Katjes leads to typical suggestions for firms within the cluster of Resource Constrained Innovators. Due to their low levels in all characteristics, these firms should work on the basics of proactive customer orientation. More specifically, they have to introduce external proactive customer-oriented cooperations, increase proactive customer-oriented climate and proactive customer-oriented processes, and enlarge responsive market orientation.

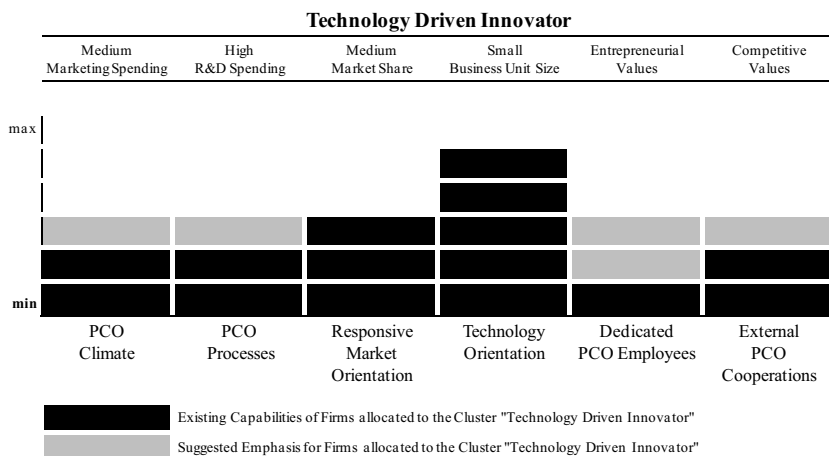
6.3.2 Technology Driven Innovator: Phonak GmbH

Phonak is examined as an example for a Technology Driven Innovator. Firms in this cluster typically have a low level of dedicated proactive customer-oriented employees, and rather low levels of proactive customer-oriented climate, proactive customer-oriented processes, and external proactive customer-oriented cooperations. In addition, they have a medium level of responsive market orientation and a very high level of technology orientation (Figure 6–12). These firms are characterized with medium marketing spending, high R&D spending, medium market share, small business units, and dominance of entrepreneurial and competitive values. While Phonak is in many respects a typical Technology Driven Innovator, its marketing spending is high and its market share is very high, characteristics rather outstanding for this cluster.

Context of Phonak: Phonak, a member of the Sonova Group, with corporate headquarters in Zurich, Switzerland, has developed, produced and distributed technologically leading hearing and radio systems for more than 50 years. However, Phonak covers more than just hearing instruments: Wireless communication systems for audiological applications and hearing protection systems are also offered. Sonova is a leading provider of innovative hearing healthcare solutions. This financially strong and globally active group of companies pursues an ambitious growth strategy in which innovation, customer focus, and proactive cost management play a key role. The Sonova Group is the worldwide leading provider of hearing systems and the market leader in wireless communication systems for audiology applications. It operates in more than 90 countries, employs over 6,800 people, and had a sales record of CHF 1,500 million in 2009. Sonova has its own wholesale network and distributes its products through independent distributors, and also owns retail stores in selective countries. Sales and

income after tax have continuously grown in the last year, suggesting that the business environment of Phonak is growing.

Figure 6–12: Typical Profile of a Technology Driven Innovator¹⁸



Proactive Customer-Oriented Climate at Phonak: Phonak's awareness towards innovation and addressing customer needs is signaled in the following statement: "*We fervently search for outstanding new solutions in hearing technology and consider progress as our highest award*" (Awareness) (Phonak 2010). The strategic mission of Phonak is rather technology-driven "*Sonova [includes Phonak] strives to offer its customers the most technologically advanced products of unparalleled quality*" (Guidance) (Sonova 2010). The atmosphere within the company is defined by collective actions and informal interactions. Employees try to act in concert in order to reach collective goals, interact in a transparent and straightforward way, and aim for clear processes and smooth procedures (Atmosphere). Furthermore Phonak states that "*in order to improve our solutions, we continuously question the way things are done, challenge the*

¹⁸ Phonak differs to the typical profile of a Technology Driven Innovator in respect to its high market share.

limits of technology and strive for the unexpected" (Phonak 2010). However, guidelines regarding the collection of insights about latent and future needs, early warning systems, regular discussions about upcoming environmental changes, and awarding employees that successfully identify needs before they were articulated by customers are missing (Infrastructure).

Proactive Customer-Oriented Processes at Phonak: On the one hand, Phonak has started to integrate hearing specialists and end users in the product development processes (Customer Integration and Qualitative Methods). Therefore latent needs are probed by these methods, for example with widespread in-depth interviews with hearing-impaired customers and their relatives. On the other hand, the company has so far missed the opportunity to apply methods to uncover future needs with more forward-looking processes (Trend Watching and Scenario Approaches).

Responsive Market Orientation at Phonak: Phonak aims to establish close relationships with business customers: "*Creating sustainable added value for hearing specialists means more than just delivering top-quality, technologically advanced products. Service, training and the quality of advice offered to end users also play a key role in the hearing system business*" (Phonak 2010). Besides its orientation towards hearing specialists, Phonak also tries to improve its relationships with people suffering from hearing loss: "*All our efforts focus on people. In our close cooperation with hearing care experts around the world, we want to give our customers the confidence to lead active lives*" (Phonak 2010). Moreover, Phonak targets end customers directly with its *Hear the World* magazine and workshops, for example at the international hearing care conference "The Challenge of Aging" organized in Chicago. However, besides the direct contact points of Phonak, independent hearing specialists are mainly in contact with people needing a hearing aid.

Technology Orientation at Phonak: Phonak is foremost a technology-driven company with a very high innovation rate. For example, in 2009 the Phonak product range was expanded to include the Lyric products, the world's first and only extended-wear hearing instrument, which is placed deep in the ear canal and totally invisible. Phonak stated its technological mission as "*we produce modern technology and versatile products that offer a life without*

limitations" (Phonak 2010). Consequently, Phonak is considered to be the global technology leader in the development of hearing solutions, especially in the development of solutions for children and in radio technology: "*With our creative solutions, we strive to overcome technological limitations - so that all people are able to hear, understand and fully enjoy life's rich landscapes of sound"* (Sonova 2010).

Dedicated Proactive Customer-Oriented Employees at Phonak: To date, no dedicated proactive customer-oriented employees are engaged. Generalists from the marketing department work on topics related to latent and future needs.

External Proactive Customer-Oriented Cooperations at Phonak: While Phonak deploys intense cooperations with hearing care experts and leading international universities, these cooperations are mainly on technological topics like innovations in the fields of hearing research, signal processing, communication technology, and acoustics or materials. Only a few cooperations are engaged with proactive customer orientation (e.g., with the Institute of Marketing, University of St. Gallen).

Main Challenges and Recommendations for Phonak: Although Phonak has an outstanding technology orientation and a good responsive market orientation it inhibits room for improvement when it comes to latent and future needs. Dedicated proactive customer-oriented employees need to be denominated, they should report findings to a high hierarchical level, and they should spread them among all departments. In addition, external proactive customer-oriented cooperations should be amplified to benefit from partners with a higher proactive customer orientation. Furthermore proactive customer-oriented climate and the use of proactive customer-oriented processes should be increased. Desirable focal points are guidance and infrastructure for climate, and trend watching and scenario approaches for processes. The recommendations to increase proactive customer orientation and emphasize market-based innovations are summarized below for Phonak's specific situation:

- Denominate dedicated proactive customer-oriented employees. Specialized knowledge and clear responsibilities help to identify latent and future needs successfully and to incorporate these needs in product development processes.

- Intensify external proactive customer-oriented cooperations with future-oriented service providers, experts from other industries, entrepreneurial companies, and lead users. These cooperations help to gain additional insights about upcoming needs not expressed by hearing care experts and customers.
- Improve the guidance of employees towards proactive customer-oriented behavior. Top management of Phonak and Sonova should emphasize the importance of latent and future needs, and not solely focus on their technological developments.
- Create a proactive customer-oriented infrastructure, including for example guidelines for proactive customer-oriented activities, an early warning system for potential developments, and regular discussions on latent and future needs. The infrastructure helps to anchor proactive customer orientation within Phonak.
- Apply trend watching and scenario approaches to gain knowledge about future developments and upcoming changes in consumer behavior. While Phonak already uses customer integration and qualitative methods, these processes may provide complimentary benefits.

Conclusion and Suggestions for Technology Driven Innovators: The case of Phonak leads to typical suggestions for firms within the cluster of Technology Driven Innovators. To strengthen their proactive customer orientation, these firms should primarily denominate dedicated proactive customer-oriented employees and intensify external proactive customer-oriented cooperations. Furthermore these firms should improve their proactive customer-oriented climate and apply more proactive customer-oriented processes.

6.3.3 Integrated Innovator: GE Healthcare

GE Healthcare is examined as an example for an Integrated Innovator. Firms in this cluster typically have a low level of proactive customer-oriented cooperations and a medium level of technology orientation. Additionally, they have high levels of proactive customer-oriented climate, proactive customer-oriented processes, responsive market orientation, and dedicated proactive customer-oriented employees

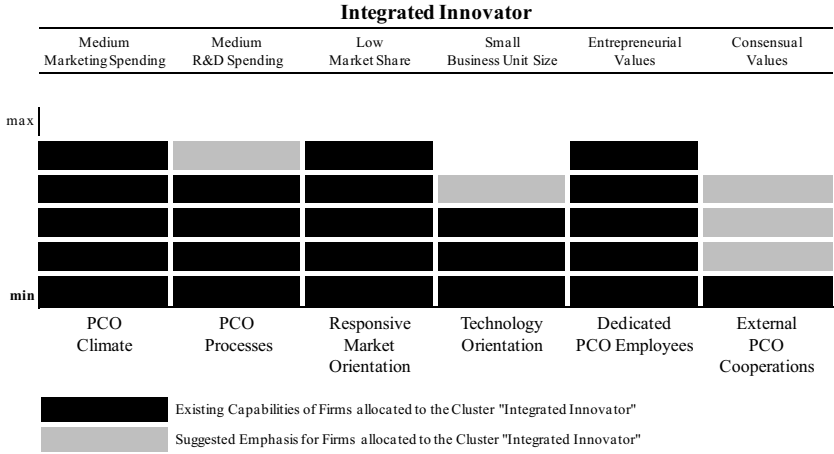
(Figure 6–13). These firms are characterized with medium marketing spending, medium R&D spending, low market share, small business units, and dominance of entrepreneurial and consensual values. Although GE Healthcare is in most characteristics a good example for an Integrated Innovator, its level of proactive customer-oriented cooperations is much higher than the mean level of cooperations for this cluster.

Context of GE Healthcare: Headquartered in the United Kingdom, GE Healthcare is a \$17 billion unit of General Electric, the fourth most recognized brand in the world. Worldwide, GE Healthcare employs more than 46,000 people committed to serving healthcare professionals and their patients in more than 100 countries. GE Healthcare has a broad range of products and services that include medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies. The following description focuses on GE Healthcare Europe.

Proactive Customer-Oriented Climate at GE Healthcare: In general, GE has a very pronounced innovative, proactive customer-oriented climate. "We consider our culture to be among our innovations. Over decades our leaders have built GE's culture into what it is today: A place for creating and bringing big ideas to life. Today, that culture is the unifying force for our many business units around the world" (GE Healthcare 2010). To display the importance of upcoming and future needs, GE Healthcare uses events like "See the Future of Healthcare Technology Today" (Awareness). Furthermore, the company guided its employees towards proactive customer-oriented behavior with its healthymagination campaign. The campaign motivates to share imaginative ideas and proven solutions to address upcoming needs (Guidance). Moreover it goes beyond innovations in the fields of technology and medicine and celebrates the people behind these advancements. The work environment of GE Healthcare supports communication and informal exchange and is affected by the spirit of innovation (Atmosphere). Furthermore upcoming environmental changes are regularly discussed at GE Healthcare, and a Wiki is denominated as a central contact point for ideas of employees concerning latent and future needs. Moreover employees that successfully identify needs before they were articulated by customers are awarded, for example with participating

at seminars and off-the-job training at leading business schools (Infrastructure).

Figure 6–13: Typical Profile of an Integrated Innovator¹⁹



Proactive Customer-Oriented Processes at GE Healthcare: Several proactive customer-oriented processes are used by GE Healthcare. For examples, hospital partners provide information about new approaches to patient monitoring, resulting in the need to integrate clinical information, transform patient monitoring, and help clinicians make critical healthcare decisions quickly (Customer Integration). Market tests and virtual tests of new concepts, products, and prototypes are conducted regularly with both clinical stuff and patients (Qualitative Methods). Due to upcoming changes in regulations in 2013, the need for a fully integrated Practice Management and Patient Self-Service Portal solution for small practices and primary care physicians has been identified (Trend Watching). Furthermore it is predicted that cancer cases will likely double globally by 2020, resulting in

¹⁹ GE Healthcare differs from the typical profile of an Integrated Innovator in respect to its level of proactive customer-oriented cooperations.

a stronger emphasis on connecting and interacting with oncology specialists (Scenario Approaches).

Responsive Market Orientation at GE Healthcare: The whole business of GE Healthcare is adjusted towards the needs of patient and doctors. Besides committing to serve the communities and to provide customers with innovative, high-quality products and services, GE Healthcare is seeking to build stronger relationships between patients and doctors. Thus healthymagination was created to gather, share, and discuss healthy ideas. Another example for the strong responsive market orientation is eHealth, a strategy to improve quality and access in healthcare while reducing costs. With this strategy, GE Healthcare is actively countering disparate IT systems across healthcare institutions. These solutions aim at simplifying the collection and exchange of data among a large variety of legacy clinical systems and should connect care providers and their patients. These examples display the high orientation of GE Healthcare for current needs of the market.

Technology Orientation at GE Healthcare: Like all business units from General Electric, GE Healthcare is dedicated to technological innovations. In all product areas, GE aims to turn good ideas into technologies that make the world a better place, thus explicitly incorporating market needs in their innovation processes. Backed by its Global Research Center, with more than 100 years of innovative experience, GE continually tries to increase the number of new products introduced. However, compared to its competitors like Siemens Medical Solutions, Agfa, Philips, or Toshiba, GE Healthcare's technology orientation is still only average high.

Dedicated Proactive Customer-Oriented Employees at GE Healthcare: GE Global Research is one of the world's largest and most diversified industrial research organizations, with many dedicated proactive customer-oriented employees. GE Global Research is multinational with facilities in the United States, India, China, and Germany. GE's diverse set of four businesses, including GE Healthcare, creates one of the most diverse industrial labs in the world. From aircraft engines to power generation and financial businesses, GE Global Research leverages technology across industries and across scientific disciplines to satisfy future needs. Consequently it is stated that many concepts developed in the research

centers "serve as a glimpse into the future of the industry" (GE Healthcare 2010).

External Proactive Customer-Oriented Cooperations at GE Healthcare: Although the level of proactive customer-oriented cooperations is considerably high at GE Healthcare, there is still room for improvement. A typical example for a cooperation is a joint venture with Intel. The reasons for the cooperation are summarized in the following: "*At GE Healthcare, we have the technology and the expertise that can help elderly people to stay in their homes for as long as possible and to maintain their dignity and their independence. Innovation is often forged when the most powerful minds in complementary fields come together, and that's why we've joined with Intel*" (GE Healthcare 2010). Another example is a global partnership with the acknowledged eHealth expert ICW, who have concentrated on patient identification and health record management products for many years. However, to increase its proactive customer orientation, GE Healthcare should also intensify cooperations with future-oriented service providers and smaller, entrepreneurial companies to think outside of the box and overcome the barriers of large, established companies.

Main Challenges and Recommendations for GE Healthcare: Overall GE Healthcare already has a high proactive customer orientation. Nevertheless, some capabilities may still be improved. First, cooperations with entrepreneurial businesses and future-oriented service providers may stimulate proactive customer-oriented climate and proactive customer-oriented processes. Second, GE Healthcare may broaden and deepen their trend watching and especially include peripheral developments. In addition, increasing investments in technological capabilities may also support proactive customer orientation. Compared to other GE units and main competitors there is still room for improvement in technology. The recommendations to increase proactive customer orientation and emphasize market-based innovations are summarized below for GE Healthcare's specific situation:

- Intensify cooperations with entrepreneurial businesses to think outside of the box, overcome inertia, and leave the boundaries of a huge multinational firm (Hamel and Prahalad 1994). These types of cooperations may breath fresh life into formal innovation processes.

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- Intensify cooperations with future-oriented service providers to obtain additional input and support in applying proactive customer-oriented processes. Cooperations with future-oriented experts complement the benefits from GE's innovation specialists.
 - Broaden and deepen trend watching. More specifically, include peripheral developments and maverick employees with insights about the periphery in these processes (Day and Schoemaker 2005). In doing so additional insights may be obtained.
 - Invest in new technologies to keep pace with main competitors, for example to keep up with the non-invasive diagnostic systems from Toshiba Medical Systems. Although increasing technology orientation is very resource intensive, in the very competitive market of healthcare this investment may be necessary.

Conclusion and Suggestions for Integrated Innovators: The case of GE Healthcare leads to typical suggestions for firms within the cluster of Integrated Innovators. To strengthen their high proactive customer orientation, these firms should intensify external proactive customer-oriented cooperations, apply more proactive customer-oriented processes, and invest in their technology orientation.

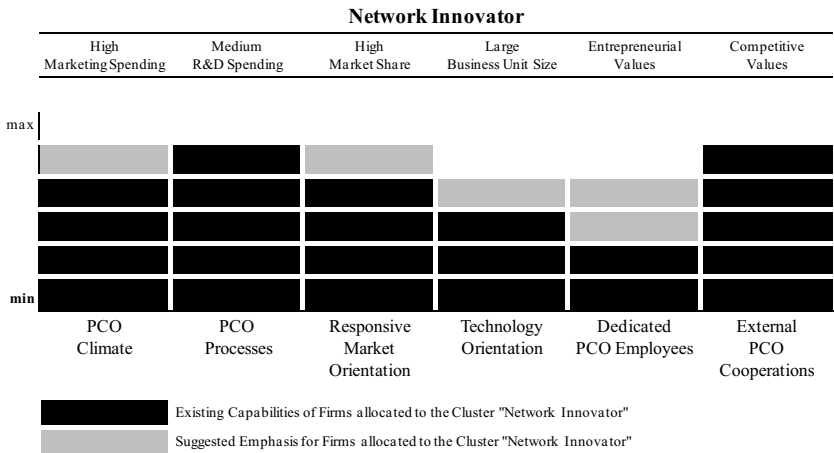
6.3.4 Network Innovator: BMW Group

BMW Group is examined as an example for a Network Innovator. Firms in this cluster typically have a rather low level of dedicated proactive customer-oriented employees, a medium level of technology orientation, and high levels of proactive customer-oriented climate, proactive customer-oriented processes, responsive market orientation, and external proactive customer-oriented cooperations (Figure 6–14). Furthermore these firms are characterized with high marketing spending, medium R&D spending, high market share, large business units, and dominance of entrepreneurial and competitive values. While BMW Group is in many respects a typical Network Innovator, its technology orientation and R&D spending are very high, both characteristics rather outstanding for this cluster.

Context of BMW Group: BMW is a classic Original Equipment Manufacturer, designing, developing, producing, and selling vehicles under

its brands BMW, Mini, and Rolls-Royce as well as motorbikes. Additionally, the company builds bicycles and engines for external customers like Opel, Land Rover, and the aviation industry. It employs over 95,000 people and had sales revenues of EUR 50,681 million in 2009. In the automotive market, BMW stands for extravagance in design and outstanding engine development. Based on externally offered prices, the BMW Group is the market leader in technology and innovations within the premium car segment. The BMW Group is positioned in the high-class segment of the car market. A slight decline in the number of cars sold over the last years led to a total of 1.26 million units sold in 2009. Together with a decrease in net profit, this indicates that the business environment is turbulent with changing customer needs.

Figure 6–14: Typical Profile of a Network Innovator²⁰



Proactive Customer-Oriented Climate at BMW Group: BMW's awareness towards future customer needs increased in the last years, resulting in many

²⁰ BMW Group differs to the typical profile of a Network Innovator in respect to its high technology orientation and high R&D spending.

different future-oriented projects like "Connected Drive" and "Efficient Dynamics" (Awareness). Although future customer needs are given a high importance at innovation departments (e.g., MIL, IFMO, BMW Group Research and Development), the top management's business interest is stated in the following: "*Along with its automotive concerns, the BMW Group's activities comprise the development, production and marketing of motorcycles, as well as comprehensive financial services for private and business customers*" (BMW Group 2010). Thus top management seemed to adhere to the automobile and do not pay enough attention to important future developments in mobility, for example car sharing (Guidance). Future issues are established by the BMW Group through a deeply rooted culture of innovation lived out in specialized departments (Atmosphere). However, the atmosphere in other departments is rather defined through hierarchies and formal routines. To ensure the rapid implementation of innovations, the BMW Group keeps communication routes as short and efficient as possible. This also comes out most clearly through the architecture of BMW's Research Centre: The Research and Innovation Centre in Munich allows direct and short-distance communication of employees through its honeycomb structure (Infrastructure). The adjacent Project Building, again through its architecture, follows the Product Creation Process of BMW Group, bringing together all specialists from Development, Production, and Purchasing in one joint project area while working on a specific vehicle project. Within these project teams, insights about latent and future needs are collected, and all team members discuss regularly about upcoming environmental changes. However, a further increase in BMW's proactive customer-oriented climate would facilitate transforming identified latent and future needs into strategic initiatives and support proactive customer-oriented processes.

Proactive Customer-Oriented Processes at BMW Group: Typical for a Network Innovator, BMW uses all kinds of proactive customer-oriented processes. Keeping a close eye on customer benefits, the BMW Group pursues a three-stage process of market-based innovation. First, in collaboration with partners from all over the world, trends and technologies pointing to the future are identified (Scenario Approaches and Trend Watching). Taking the second step, specialists in innovation management assess the results achieved for their technical and economical

implementation as well as the benefits actually offered to the customer with in-depth investigations (Qualitative Methods). Possible solutions developed in this way are then carried over by the BMW Group's engineers to the series development process and, ultimately, to a specific product. Again, engineers work often closely together with existing or potential customers to refine and continually adapt the products (Customer Integration). Moreover, the Strategic Market Research Department had been founded that addresses potential future needs of customers in an early stage. Among others, trend scouting, trend monitoring, and customer foresight are employed to track the development of trends until their impact reach existing and potential customers of BMW. Additionally, future developments are visualized and concretized within the Marketing Innovation Department.

Responsive Market Orientation at BMW Group: The existing needs of customers play an important role for BMW. Examples include pronounced customer orientation in sales and production processes through increased flexibility or customer orientation workshop for the General Managers of BMW Dealers. Another example to clarify its customer orientation is its engagement in the mobile channel, stated by the Head of Digital Media Marc Mielau: "*Our philosophy is that we're more interested in delivering value to the customer, and we use the unique capabilities of mobile, specifically location-awareness and situational usage [...] to show people that we're serious when we talk about customer orientation*" (Hibberd 2009). However, besides its direct channels, independent car dealers are the main frontline employees having personal contact with BMW's customers, and BMW obtain much customer information from its dealer network.

Technology Orientation at BMW Group: Contrary to the cluster center, BMW has a highly pronounced technology orientation. The innovative power of the BMW Group is displayed by approximately 60,000 design utilities and protective rights, thereof some 13,000 patents already in place and almost 900 new or extended patents made out in the year 2008 alone. However, the technology orientation is combined with a strong customer orientation. Only ideas offering the customers added value and benefits are pursued and examined in greater detail. BMW states that "*innovation is not a purpose in itself for the BMW Group, but rather a specific line of action*

oriented towards the customer" (BMW Group 2010). Therefore the BMW Group concentrates on clearly defined areas of technology from which the customer benefits directly and promotes, in particular, developments that stand for ongoing progress in the areas of safety, economy, and driving pleasure.

Dedicated Proactive Customer-Oriented Employees at BMW Group: Although there are dedicated proactive customer-oriented employees at BMW Group (e.g., Marketing Innovation Department), the number of these employees is considerably small compared to the number of engineers, and they do not have the necessary impact within the firm. For example, the Marketing Innovation Department at BMW's headquarter in Munich currently consists of five Marketing Innovation Managers (compared to a total of 100,000 employees in over 100 countries) engaged in uncovering the future needs of customers and only report to the third hierarchical level within BMW Group. More importantly, the main challenge for BMW consist of transforming the identified latent and future needs into strategic initiatives. Increasing the influence of proactive customer-oriented employees (e.g., Institute for Mobility Research, Strategic Market Research Department, Marketing Innovation Department) within BMW would be crucial to face this challenge.

External Proactive Customer-Oriented Cooperations at BMW Group: Today some 8,900 specialists interact with one another in the BMW Group's Research and Development Network. Through efficient processes and close interaction of the development departments, each individual contributes directly to the creation of new products. Moreover, BMW examines and assesses future-oriented trends and technologies together with suppliers, universities, and research institutes. This includes areas such as aerospace or the software industry, considering how these technologies and developments might be transferred into the automobile. To recognize trends in time and offer appropriate, tailor-made solutions, BMW Group communicates directly with the most important markets. Incorporating eleven locations in five countries, the BMW Group's Research network spans the entire world and is clearly oriented towards the customer. One example of collaboration is the Virtual Innovation Agency, an interactive and dynamic interface between pioneers in innovation all over the world

and the BMW Group. Other examples of proactive customer-oriented cooperations include the platform Red Square, an anonymous social network for idea creation and refinement, and the Institute for Mobility Research, which promotes specialist discussions on current or future-orientated topics relating to science, politics, or public matters.

Main Challenges and Recommendations for BMW Group: Although BMW has a highly sophisticated proactive customer orientation it still faces some challenges and inhibits some room for improvement. First of all, the number of dedicated proactive customer-oriented employees appears too few for a firm of BMW's size. Furthermore it would be desirable for a clearly future-oriented firm that insights regarding latent and future needs are reported directly to a higher hierarchical level. In addition, BMW has still some room to improve its level of proactive customer-oriented climate, mainly guidance and atmosphere. Due to the crucial role of independent dealers, BMW may also expand direct customer touchpoints to increase responsive market orientation. The recommendations to increase proactive customer orientation, resulting in a higher capability for market-based innovations, are summarized below for BMW's specific situation:

- Increase the impact of proactive customer-oriented insights. Since these insights may be important for strategic decisions, they are ideally reported directly to the managing board. For example, the Corporate Research & Innovation Department of TUI refers findings obtained through trend watching and scenario analyses directly to the Group Strategy Board (Müller 2008).
- Increase the number and influence of dedicated proactive customer-oriented employees to ensure that engineer-driven, technological innovations target future needs of customers. Examples include a shift from car selling to mobility solutions that target metropolitan customers.
- Improve the guidance of employees towards proactive customer-oriented behavior. The top management should live the importance of latent and future needs and be good role models. Thus, rather than emphasizing a focus on personal cars, the upcoming value of mobility solutions established by its own think tank should be pointed out by top management (IFMO 2010).

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- Spread the proactive customer-oriented atmosphere among the whole firm. While some departments are organized like think tanks (e.g., MIL), other work environments are defined through hierarchies and formal routines. BMW should therefore support rich cross-currents of interfunctional and international dialogue within the whole company.
 - Expand direct customer touchpoints to increase responsive market orientation. To date, the majority of customer interaction with the brand BMW occurs at its dealer network. To come closer to their customers and learn more about their needs, BMW should search for additional direct touchpoints.

Conclusion and Suggestions for Network Innovators: The case of BMW Group leads to typical suggestions for firms within the cluster of Network Innovators. To further strengthen their already high proactive customer orientation, these firms should primarily increase the number and impact of dedicated proactive customer-oriented employees. Furthermore these firms should complete their proactive customer-oriented climate and hone their responsive market orientation. In contrast to BMW who already possess a leading technology orientation, firms in this cluster should typically increase their technology orientation.

6.4 Pattern-Based Recommendations for Managers

The different patterns of market-based innovation strategy require distinct situation-specific recommendations on how to use resources to increase customer orientation. Based on the four case studies, guidelines for the four clusters have been derived. Importantly, the recommendations for firms with the typical characteristics of Resource Constrained Innovators, Technology Driven Innovators, Integrated Innovators, and Network Innovators differ significantly.

Resource Constrained Innovators inhibit room for improvement in all categories and currently rather fail to probe latent and uncover future needs of customer. However, due to the constrained resources, not all capabilities can be maximized, and basic measures seem to be appropriate for this cluster. *Technology Driven Innovators* have an outstanding technology orientation but inhibit room for improvement when it comes to latent and future needs. Measures to increase cooperations, employees, climate, and processes seem to be appropriate. *Integrated Innovators* and *Network*

Innovators both already have high proactive customer orientation. However, cooperations for Integrated Innovators and dedicated employees for Network Innovators may still be improved, and measures targeting these capabilities seem to be appropriate.

Managers who want to increase proactive customer orientation have to be aware of their firms' characteristics and combine the general guidelines displayed in Table 6-1 with the pattern-based recommendations displayed in Table 6-4. In doing so, managers can identify and combine the most important drivers of how to increase their firm's ability to probe latent needs and uncover future needs. The findings of different patterns of market-based innovation strategy and their distinct drivers of proactive customer orientation provide answers to the sixth and last goal of this research.

Table 6-4: Pattern-Based Recommendations

Cluster	Resource Constrained Innovator	Technology Driven Innovator	Integrated Innovator	Network Innovator
Firm	Katjes GmbH	Phonak GmbH	GE Healthcare	BMW Group
Description of Cluster	<ul style="list-style-type: none"> ▪ Medium level of dedicated PCO employees. ▪ Low levels of PCO climate, PCO processes, responsive market orientation, technology orientation, and PCO cooperations. 	<ul style="list-style-type: none"> ▪ High level of technology orientation. ▪ Medium level of responsive market orientation. ▪ Low levels of dedicated PCO employees, PCO climate, PCO processes, and PCO cooperations. 	<ul style="list-style-type: none"> ▪ High levels of PCO climate, PCO processes, responsive market orientation, and dedicated PCO employees. ▪ Medium level of technology orientation. ▪ Low level of PCO cooperations. 	<ul style="list-style-type: none"> ▪ High levels of PCO climate, PCO processes, responsive market orientation, and PCO cooperations. ▪ Medium level of technology orientation. ▪ Low level of dedicated PCO employees.
Main Challenges	<ul style="list-style-type: none"> ▪ Low levels in all characteristics: Firms should work on the basics of proactive customer orientation. 	<ul style="list-style-type: none"> ▪ Outstanding technology orientation but room for improvement when it comes to latent and future needs. 	<ul style="list-style-type: none"> ▪ Already high proactive customer orientation but primary PCO cooperations may still be improved. 	<ul style="list-style-type: none"> ▪ Already high proactive customer orientation but number and influence of dedicated PCO employees may still be improved.
Pattern-Based Recommendations	<ul style="list-style-type: none"> ▪ Initiate PCO cooperations with other companies and experts. ▪ Create awareness for proactive customer orientation. ▪ Apply trend watching processes. ▪ Introduce direct customer touchpoints to increase responsive market orientation. 	<ul style="list-style-type: none"> ▪ Denominate dedicated PCO employees. ▪ Intensify PCO cooperations. ▪ Improve the guidance of employees towards PCO behavior. ▪ Create a PCO infrastructure. ▪ Apply trend watching and scenario approaches. 	<ul style="list-style-type: none"> ▪ Intensify cooperations with entrepreneurial businesses. ▪ Intensify cooperations with future-oriented service providers. ▪ Broaden and deepen trend watching. ▪ Invest in new technologies to keep pace with main competitors. 	<ul style="list-style-type: none"> ▪ Increase the impact of PCO insights. ▪ Increase the number and influence of dedicated PCO employees. ▪ Improve the guidance of employees towards PCO behavior. ▪ Spread the PCO atmosphere among the whole firm. ▪ Expand direct customer touchpoints to increase responsive market orientation.

7 Conclusions

The last chapter presents a final discussion of the results and the implications of this dissertation. More specifically, this chapter is structured as follows: The first part of this chapter briefly reiterates the research gaps and results for each of the research questions. The second part reviews on a more general level the theoretical and managerial contributions of this dissertation. This is followed by a discussion of the limitations of the present findings. Finally, some of the factors that could not be considered in the present study are described and some additional suggestions for future research are given.

7.1 General Discussion

In the introduction of this dissertation, the general research question "*What can managers do to successfully probe latent needs and uncover future needs of customers?*" was formulated and then broken down into the key issues that have not been addressed by previous research. To ascertain if and to what extent this dissertation has provided adequate answers to the resulting research gaps, this section will briefly review and summarize the results. For purposes of illustration, each research gap is reiterated below.

1. How can firms increase their ability to probe latent needs and uncover future needs of customers?

The results of this research suggest that firms have to overcome organizational barriers, create a proactive customer-oriented climate, and implement proactive customer-oriented processes to increase their ability to probe latent needs and uncover future needs. However, probing latent needs and uncovering future needs does not increase performance directly. Customers will not purchase products or services simply because a company has a profound proactive customer orientation. Instead, insights obtained through proactive customer-oriented climate and proactive customer-oriented processes should contribute to the development of superior offers. Thus creating proactive customer orientation and effectively identifying latent and future needs of customers is only the first step towards market-based innovations.

2. Which climate and processes lead to proactive customer orientation?

Based on an examination of specialized departments, expert interviews, workshops with managers, and a meta-analysis of existing case studies related to proactive customer orientation, two dimensions of proactive customer orientation have been distinguished, namely specific work environments (proactive customer-oriented climate) and use of specific methods (proactive customer-oriented processes). Both dimensions help firms to probe latent needs and uncover future needs of customers. Proactive customer-oriented climate is defined as the extent to which attention to customers' latent and future needs is lived within an organization, and can be grouped into four sub dimensions: (1) Awareness for proactive customer orientation, (2) guidance towards proactive customer-oriented behavior, (3) proactive customer-oriented atmosphere, and (4) proactive customer-oriented infrastructure. Proactive customer-oriented processes are defined as the extent of information processes that aim to probe latent needs and uncover future needs of customers, and can also be grouped into four sub dimensions: (1) Customer integration, (2) in-depth qualitative methods, (3) trend watching, and (4) scenario approaches.

3. What are the performance implications resulting from proactive customer orientation?

The results of this study support that proactive customer orientation leads to innovation, which in turn leads to customer value and eventually to superior business performance. In addition, I found a direct positive path from proactive customer-oriented climate to customer value, and two direct positive paths from exploratory innovation and exploitative innovation to business performance. More specifically, I found support that proactive customer orientation leads to creative new offerings (exploratory innovation) as well as to a creative rearrangement of offerings (exploitative innovation). Interestingly, the results fully support a positive relationship between proactive customer orientation and exploitative innovation. Although this relationship appears reasonable, former research mainly negated its existence. The results also demonstrate that exploratory innovation and exploitative innovation are more strongly influenced by proactive customer-oriented processes than by proactive customer-oriented climate.

4. *Which organizational antecedents support a proactive customer-oriented climate and proactive customer-oriented processes?*

Based on the expert interviews and supported by the study results, I identified four organizational values that serve as antecedents of proactive customer orientation. While future focus and willingness to cannibalize increase both proactive customer-oriented climate and proactive customer-oriented processes, tolerance for failure and constructive conflict lead to a higher proactive customer-oriented climate. These values should be increased to overcome organizational barriers that deter proactive customer orientation.

5. *Which organizational characteristics determine the relative importance of proactive customer-oriented climate and proactive customer-oriented processes?*

Several organizational characteristics moderate the relative importance of proactive customer-oriented climate and proactive customer-oriented processes. The importance of proactive customer-oriented climate increases for business units that have a long business history and inhibit dominance of entrepreneurial values over bureaucratic values, or of consensual values over market values, respectively. The importance of proactive customer-oriented processes increases for business units that have a high degree of formalization or strategic rigidity. Thus firms should be mindful of the situational differences that result from organizational characteristics when they invest in proactive customer-oriented climate or proactive customer-oriented processes.

6. *Which different patterns of market-based innovation strategy exist, and how can firms from distinct patterns increase proactive customer orientation efficiently?*

A cluster analysis resulted in four distinct types of market-based innovation strategy, labeled as technology driven innovator, integrated innovator, network innovator, and resource constrained innovator. The four types differ regarding their degree of proactive customer-oriented climate, proactive customer-oriented processes, responsive customer orientation, technology orientation, degree of dedicated employees, and proactive customer-oriented cooperations with external sources. Integrated and network innovation strategy attain the highest scores on business performance, supporting the importance of proactive customer orientation for market-based innovations. Moreover the four clusters do not differ in industry affiliation or

business history, suggesting that external circumstances do not strongly affect the market-based innovation strategy. Due to the different patterns of market-based innovation strategies, all four types exhibit distinct emphasizes of their resources and thus require situation-specific recommendations of how to increase their customer orientation.

7.2 Theoretical Contribution

The results and implications of the study have already been discussed in the previous section. This section will therefore outline on a more general level to which research streams this dissertation makes a contribution. More specifically, this dissertation strives to contribute to three different theoretical streams that are discussed below, namely research on customer orientation, innovation management, and adaptive foresight.

New Perspectives on Customer Orientation: Firstly, the results of this dissertation increase the understanding of the proactive dimension of market orientation regarding its nature, its performance implications, and its antecedents. So far, the nature of proactive customer orientation has only been examined in a consolidated, rather superficial manner (e.g., Atuahene-Gima et al. 2005; Blocker et al. 2010; Narver et al. 2004). On the contrary, based on the work of Narver and Slater (1990) and Kohli and Jaworski (1990), recent research distinguished between two dimensions of responsive customer orientation, described as the affective organizational system and the cognitive organizational system (Homburg et al. 2007; Hult et al. 2005). Evidence from specialized departments that probe latent needs and uncover future needs lead to a related distinction (e.g., Kruthoff 2005; Müller 2008; van der Duin 2006). Such departments have a distinct climate (affective component) and use different processes (cognitive component) than other departments that aim to satisfy current needs. To date, both climate and processes have not been examined in detail. In detailing both dimensions, this work provides valuable insights into the nature of proactive customer orientation. Furthermore it answers the call for more research focusing on knowledge, skills, and values required to comprise proactive customer orientation (Blocker et al. 2010).

Moreover, the existence of a positive effect from customer orientation on business performance and the causality of the potential effect has been discussed among the

marketing and strategy literature (e.g., Christensen and Bower 1996; Connor 1999; Connor 2007; Hult et al. 2005; Priem and Butler 2001a, 2001b; Slater and Narver 1998, 1999). To address the doubt about the existence of a positive effect, the performance implications of proactive customer orientation have been examined with two different methods, structural equation model and linear regression, and several control variables have been incorporated in the latter analysis. The results support that proactive customer orientation has indeed a positive effect on business performance. To address the doubt that a strategic resource like customer orientation may affect business performance at all due to a tautological nature of the underlying resource-based view, all core concepts of the resource-based view have been incorporated in the study, including strategic resource, strategic action, competitive advantage, and superior business performance. The results provide empirical evidence for the theoretical notion that the resource-based view is an appropriate theory to explain the performance implication of proactive customer orientation (Barney 2001; Ketchen et al. 2007). Thus this work provides valuable new evidence to support the existence and causality of a positive effect from customer orientation on business performance.

In addition, none of the existing studies on proactive customer orientation incorporated any antecedents for proactive customer orientation in their frameworks (Atuahene-Gima et al. 2005; Blocker et al. 2010; Li et al. 2008; Narver et al. 2004; Tsai et al. 2008). In identifying four organizational values that serve as antecedents, this important gap within the literature has been closed. Together with the detailed recommendations regarding proactive customer-oriented climate and proactive customer-oriented processes, this work provides valuable insights of how managers may increase the proactive customer orientation of their firm.

New Perspectives on Innovation Management: Secondly, this dissertation strives to make a contribution to the literature that examines exploitative innovation and patterns of market-based innovations. To date, the link between proactive customer orientation and exploitative innovation is controversial. Exploitative innovations are product improvements and line extensions that are usually aimed at satisfying the needs of existing customers (e.g., Atuahene-Gima 2005; Benner and Tushman 2003; Danneels 2002; Jansen et al. 2006). Given that product improvements and line extensions may indeed target latent or future needs of existing customers, a positive link seemed reasonable. To date, however, this relationship has mainly been neglected. In providing empirical evidence this relationship is supported. Thus this work revises the importance of latent and future needs for exploitative innovation and contributes to

recent research that emphasizes the crucial role of being proactive customer oriented to exploit business relationships (e.g., Di Mascio 2010; Sandberg 2007; Tuli et al. 2007).

Furthermore, Hauser et al. (2006) have called for more research investigating efficiency aspects of innovation. Despite the broad set of antecedents of market-based innovations identified, and the assumption that maximizing as many of them as possible leads to superior customer value (e.g., Atuahene-Gima et al. 2005; De Luca et al. 2010; Hauser et al. 2006; Zhou and Wu 2010; Zhou et al. 2005), firms face resource constraints and must strive to identify and combine the most important drivers effectively. Thus recent research focuses more on different configuration to achieve superior innovation capability (Stock and Zacharias 2010). This perspective challenges irrelevant "the more ... the better" approaches and identifies effective types of fit among market-based innovation drivers as configuration variables. Thus this work provides valuable new insights of typical patterns firms may follow to create market-based innovations and achieve a higher business performance.

New Perspectives on Adaptive Foresight: Thirdly, the results also provide new insights regarding adaptive foresight, a recent research stream whose importance has been highlighted by Zeithaml et al. (2006) in their conceptual article. More precisely, the authors state that firms need to develop adaptive foresight to be positioned to predict the future by exploiting changes in the business environment and anticipating customer behavior. This work addresses these research gaps and develops guidelines of how firms can create value for future customer. Moreover, the importance and performance contribution of adaptive foresight in terms of proactive customer-oriented climate and proactive customer-oriented processes have been supported with an empirical study. In addition, contingency factors have been identified under which managers should concentrate more on climate or processes to anticipate customer behavior and uncover future needs.

7.3 Managerial Implications

The results of this dissertation have important implications for managers that are intent on building and maintaining a strong proactive customer orientation. These implications have already been reviewed in detail in Chapter 6 and will be summarized briefly in the following.

First, managers should prevail over organizational barriers that constrain proactive customer-oriented activities. To be successful in creating a pronounced proactive customer orientation, four organizational values help to overcome internal barriers, motivate employees, and maintain the necessary resources. In particular, future focus and willingness to cannibalize have a positive effect both on proactive customer-oriented climate and on proactive customer-oriented processes, and tolerance for failure and constructive conflict have a positive effect on proactive customer-oriented climate.

Second, managers should create a proactive customer-oriented climate. Thus they should consider its four sub dimensions, and create awareness for hidden and future needs, provide guidance towards proactive customer-oriented behaviors, and build an atmosphere as well as an infrastructure that integrates and supports proactive customer-oriented activities within the firm. A pronounced proactive customer-oriented climate is especially important for successful firms with a long business history and for firms dominated by entrepreneurial or consensual values.

Third, managers should implement proactive customer-oriented processes. Four different groups of methods may be used to gain the necessary insights, including customer integration, qualitative methods, trend watching, and scenario approaches. Customer integration and qualitative methods are characterized by a high customer proximity but rather low future focus and are particularly suitable for latent needs. Trend watching and scenario approaches are characterized by a high future focus but rather low customer proximity and are particularly suitable for future needs. A frequent application of proactive customer-oriented processes is especially important for firms with a high degree of formalization and strategic rigidity.

Fourth, managers should develop market-based innovations with a systematic approach. Although supporting organizational values, proactive customer-oriented climate, and proactive customer-oriented processes are vital to gaining insights about customer needs and attaining a competitive advantage, they do not shape performance directly. To successfully develop market-based innovations based on latent and future needs, relevant needs that match the specific situation have to be identified, the knowledge of the identified needs have to be deepened, and products and services that address the latent and future needs have to be introduced. Table 6-1 provides an overview of the managerial recommendations.

However, managers must strive to identify and combine the most important drivers of how to increase their firm's ability to probe latent needs and uncover future needs. Thus they should be mindful of their specific situation and follow the detailed recommendations for technology driven innovators, integrated innovators, network innovators, and resource constrained innovators outlined in Chapter 6.3.

7.4 Limitations and Implications for Further Research

Like every piece of research, this dissertation suffers from a number of limitations that need to be acknowledged. More precisely, limitations inherent in survey designs, the existence of other potential market-related moderators, a potential causal link between proactive customer-oriented climate and proactive customer-oriented processes, other potential antecedents of market-based innovations, and a potential interaction between exploratory innovation and exploitative innovation may limit the results of this study.

First, the empirical study faces the usual limitations inherent in survey designs. For a majority of the cases, I was only able to collect data from one key informant from each firm. To address this issue, I followed recommendations to improve data validity (e.g., confidentiality, incentives, clear explanation of usefulness, tests for common method variance) and collected some second informant and customer data. Nevertheless the data for both dependent and independent variables may involve a self-serving bias. To validate the business performance measure, objective data from the participating firms would have been desirable. This work is also based on evidence from firms in many different businesses and inherits a cross-sectional nature. Due to length restraints of the questionnaire, I was not able to control for all potential market-related moderators of the relationships. Furthermore, I established the relationship between organizational antecedents, proactive customer orientation, and the performance implications at a single moment in time. More appropriate conclusions about causality, for example the performance of a given firm shifting its relative emphasis on proactive customer-oriented climate or proactive customer-oriented processes, require a longitudinal study approach and should be undertaken in future research.

Second, although the study analyzes the effect of organizational characteristics on the relative importance of proactive customer-oriented climate and proactive customer-oriented processes as drivers of market-based innovations, it does not consider other potential market-related moderators, such as competitive intensity, consumer

demandingness, ease of market entry, or technological turbulence. Further research should therefore investigate the impact of market-related variables on the proactive customer orientation-innovation link.

Third, my model is specified in such a way that proactive customer-oriented climate and proactive customer-oriented processes are allowed to correlate freely. However, it does not investigate causal links between these constructs, because it is difficult to establish which dimension has causal priority (Homburg et al. 2007). Indeed, some models of cultural change in organizations view the relationship between information processing ("processes") and organizational culture ("climate") as circular (Hatch 1993). Further research could explore the relationship between the two dimensions in greater detail. Given the possibly complex interrelationships between these two concepts, I suggest a longitudinal study to analyze these issues.

Fourth, my research focuses only on a subset of possible internal antecedents of market-based innovations (e.g., Gatignon, Tushman, Smith, and Anderson 2002; Hauser et al. 2006; Zhou et al. 2005). Although the two dimensions of proactive customer orientation and the other variables included in my design explain approximately 44% of the variance of exploratory innovation and approximately 38% of the variance of exploitative innovation, further research could include other variables, such as competitor orientation, organizational structure, or reward systems.

Fifth, exploratory innovation and exploitative innovation may interact and create ambidexterity, defined as a balance between the two to achieve superior performance (e.g., He and Wong 2004; Jansen et al. 2006; Tushman and O'Reilly 1996). Although both forms of innovation have a strong impact on customer value, and no two-way interaction between them has been found, further research might include third variables within the research design to test the ambidexterity hypothesis, such as strategic mission, market-focused flexibility, or other market-related variables (compare to e.g., Menguc and Auh 2008; Morgan, Kouropalatis, and Hughes 2010).

Beyond these limitations, additional fruitful research directions and important research implications have emerged from this investigation. These include detailing additional contingency factors of the distinct dimensions and sub dimensions of proactive customer orientation, identifying which customers are worth targeting in the future, and determining specific contingency factors for the different patterns of market-based innovations.

My study highlights the key role of proactive customer orientation in enhancing innovation and business performance, and underscores the central importance accorded to climate and its processes in the customer orientation concept. However, despite the numerous studies on customer and competitor orientation, scholars are yet to recognize the distinctions among different sub dimensions of these concepts (Homburg et al. 2007; Hult et al. 2005). For example, I argue that customer-oriented firms may differ with respect to proactive customer-oriented climate and proactive customer-oriented processes. Furthermore, I suggest that two firms with the same degree of proactive customer orientation that have differential levels of climate and processes could display markedly different performance implications due to organizational characteristics. This implies that examining the role of proactive customer orientation without isolating and accounting for the fine details of the underlying sub dimensions may lead to an incomplete understanding or even misleading results. Future research should thus detail additional contingency factors of the distinct dimensions and sub dimensions of proactive customer orientation.

Although it has been claimed that emphasis on addressing latent and future needs can undermine performance (Connor 1999, 2007), the findings of this study suggest that this is not the case. Moreover, the results contradict previous studies (Atuahene-Gima et al. 2005; Li et al. 2008) regarding the relationship between proactive customer orientation and exploitative innovation, and support a positive link among those two. Under these circumstances, the importance of latent and future needs has to be revealed, and the call for more research on adaptive foresight from Zeithaml et al. (2006) is supported with these findings. While this study provides insights into how to create value for customers, additional research could also focus on how and which customers will create value for firms in the future. Hence, future research should identify which customers or groups of customers are worth targeting in the future.

Finally, my findings underscore the need for researchers to examine different strategy patterns that may lead to market-based innovation success, and the circumstances under which they are successful. Firms that face resource constraints must identify and combine the most important drivers of market-based innovations for their particular situation. Thus researchers need to move past their focus on maximizing as many drivers of innovation as possible to gain superior performance. Although this study made a first step towards a differentiated look, additional research could investigate the internal and external conditions (e.g., leadership style, market turbulence) in which different patterns are more or less successful. This effort would refine the performance

implications of proactive customer orientation, and the results could spread the systematic deployment of proactive customer-oriented climate and proactive customer-oriented processes in managerial practice. Future research should therefore determine specific contingency factors for the different patterns of market-based innovations.

Although I believe that research on proactive customer orientation is still in its beginning stages with many additional research questions to address, this study provides new insights into how to successfully probe latent needs and uncover future needs of customers. Understanding how latent and future needs may be addressed successfully will become more and more important for firms looking to achieve a superior competitive position. Thus I suggest that managers who derive strategies to increase proactive customer orientation should overcome internal barriers with the right organizational values, create customer foresight capability with the right climate, and identify key levers with the right processes. Importantly, they should also be mindful of the situational differences that result from organizational characteristics.

8 References

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9 Appendix

9.1 Expert Interviews

In-depth, half-structured interviews were conducted to focus on the issue of proactive customer orientation without constraining the interviewee. Thus the guideline has been adapted to the specific situation of the firm and the course of the conversation.

Name and Position	Firm	Date	Type of Interview
Informant 1, 31 Years old, Product Manager	Johnson & Johnson GmbH	17.04.2009	Phone Interview
Informant 2, 29 Years old, International Brand Manager	Beiersdorf AG	02.06.2009	Phone Interview
Informant 3, 58 Years old, Marketing and Sales Manager	Phonak GmbH	25.03.2009	Phone Interview
Informant 4, 31 Years old, Innovation Manager	BMW Group	20.03.2009	Personal Interview
Informant 5, 32 Years old, Marketing Strategy Manager	Dr. Ing. h.c. F. Porsche AG	28.03.2009	Personal Interview
Informant 6, 30 Years old, Marketing and Pricing Manager	GE Healthcare	25.02.2009	Personal Interview
Informant 7, 32 Years old, Marketing and Sales Manager	ThyssenKrupp AG	19.02.2009	Personal Interview
Informant 8, 41 Years old, International Marketing Manager	Henkel AG & Co. KGaA	05.04.2009	Phone Interview

9.2 Interview Guidelines²¹

Definition of Proactive Customer Orientation

- What is your understanding of proactive customer orientation?

Assessment of Proactive Customer Orientation

- What are the consequences of proactive customer orientation?
- How do you rate the proactive customer orientation in your firm?

Capabilities related to Proactive Customer Orientation

- Do you systematically probe latent needs and uncover future needs of customers in your firm?
- How do you conduct the task of probing latent needs and uncovering future needs?
- How do you identify relevant needs and developments?
- How do you seize upon relevant, upcoming needs?
- How do you implement market-based innovations in your firm?

²¹Original interview guideline in German, translated by the author.

Antecedents of Proactive Customer Orientation

- Where do you see antecedent for proactive customer orientation in your firm?
- How does the top management support proactive customer orientation in your firm?
- How do employees contribute to proactive customer orientation?
- Which improvements within your firm would increase the proactive customer orientation?

Business Performance Link

- Does proactive customer orientation contribute to the performance of your firm?
- How do insights obtained through proactive customer orientation contribute to the performance of your firm?

Challenges regarding Proactive Customer Orientation

- What are the main challenges regarding proactive customer orientation for your firm?
 - Are there any open issues regarding proactive customer orientation for you or your firm?
 - Which topics within the field of proactive customer orientation need further research?
-

9.3 Managerial Workshops

All workshops have been conducted for the author's consultancy work at the Institute of Marketing (HSG).

Content of the Workshop	Firm	Date
BMW Marketing Trend Update 2-2007	MIL, BMW Group	25.09.2007
Development and Introduction of a new Marketing Approach	Phonak GmbH	21.11.2007
BMW Marketing Trend Landscape and Trend Update	MIL, BMW Group	30.11.2007
Trade Marketing: Assessment of Current Situation	Phonak GmbH	18.12.2007
Trade Marketing: Customer Segmentation	Phonak GmbH	16.01.2008
Up2Drive: Introduction of a New Distribution Channel	SF, BMW Group	18.01.2008
Trade Marketing: Targeting and Positioning	Phonak GmbH	25.02.2008
WS - Introduction of a New Financial Service Concept	SF, BMW Group	06.03.2008
Trade Marketing: Service Development	Phonak GmbH	31.03.2008
BMW Marketing Trend Update 1-2008	MIL, BMW Group	03.04.2008
WS - SF Innovations at the Point of Sale	SF, BMW Group	09.04.2008
Retail Innovation Lab - Innovations at the Point of Sale	MIL, BMW Group	26.05.2008
Determination of Innovation Fields	MIL, BMW Group	10.06.2008
Trends in Financial Services	SF, BMW Group	08.07.2008
BMW Marketing Trend Update 2-2008	MIL, BMW Group	25.07.2008
Trade Marketing: Project Roll-Out	Phonak GmbH	19.08.2008
Emerging Innovation Fields	MIL, BMW Group	08.10.2008
Retail Innovations; Scenario Process	MIL, BMW Group	27.10.2008
Scenario 2010 Ideation Workshop	MIL, BMW Group	29.10.2008
Lead-User Workshop; Scenario Development	MIL, BMW Group	03.11.2008
Retail Innovation Lab	MIL, BMW Group	12.11.2008
Using a New Segmentation Approach to address Customers	Phonak GmbH	21.01.2008

with Segment-Specific Services		
BMW Marketing Trend Update 1-2009	MIL, BMW Group	13.02.2009
Development of a New Product Branding Concept	Phonak GmbH	25.02.2009
Introduction of a New Distribution channel	MIL, BMW Group	04.03.2009
WS - New Branding Strategy	Phonak GmbH	13.03.2009
WS - New Subbrand Strategy	Phonak GmbH	29.04.2009
Business Innovation Day	University of St. Gallen	30.04.2009
WS - Branding Strategy Proposal	Phonak GmbH	18.05.2009
Mobile Sales Force	MIL, BMW Group	06.07.2009
BMW Marketing Trend Update 2-2009	MIL, BMW Group	07.07.2009
WS - Marketing Innovation Labs	MIL, BMW Group	15.09.2009
Addressing Prospective Needs of Customers - Agenda Setting	Phonak GmbH	24.11.2009
BMW Marketing Trend Update 3-2009	MIL, BMW Group	26.11.2009
WS - Customers Future Expectations regarding E-Commerce	MIL, BMW Group	15.01.2010
BMW Marketing Trend Update 1-2010	MIL, BMW Group	09.02.2010
Addressing Prospective Needs of Customers: 1 st Workshop	Phonak GmbH	10.02.2010
Future Touch Points: Agenda Setting	Phonak GmbH	18.03.2010
WS - Marketing Innovation Labs	MIL, BMW Group	12.04.2010
Future Touch Points: Exchange and Brainstorming	Phonak GmbH	13.04.2010
Meeting with VB-12	MIL, BMW Group	11.05.2010
Customer Centricity	GKB	21.06.2010
Meeting with VB-12	MIL, BMW Group	05.07.2010

9.4 Scale Items and Psychometric Properties²²

Construct Name and Items	Item-to-total correlation
Proactive Customer-Oriented Climate	
AVE = .60; CR = .86; α = .78	
aw Parcel 1: Awareness	.793
gu Parcel 2: Guidance	.744
at Parcel 3: Atmosphere	.798
in Parcel 4: Infrastructure	.769
Awareness for Latent and Future Need	
AVE = .64; CR = .84; α = .72	
aw ₁ We discuss a lot about the future of our customers.	.797
aw ₂ We continuously talk about potential customer needs.	.796
aw ₃ We are aware that customers' hidden and future needs are important.	.810

²² Questionnaire dispensed in German, all constructs translated and back-translated by the author.

Guidance towards Proactive Customer Orientation
AVE = .62; CR = .87; α = .80

gu ₁	We exchange stories about exceptional and pronounced fulfillment of hidden customer needs.	.783
gu ₂	We share unwritten laws and hidden rules concerning exploratory customer learning.	.762
gu ₃	Entrepreneurial myths point out the importance of satisfying future needs.	.792
gu ₄	We use anecdotes from past events as examples for future customer orientation.	.836

Proactive Customer-Oriented AtmosphereAVE = .55; CR = .86; α = .79

at ₁	Our workplaces are open and out of the ordinary to support new ways of serving customers.	.790
at ₂	Our atmosphere enhances interactivity and reduces constraints when we meet customers.	.765
at ₃	Customer meeting rooms and offices are built in a style that supports communication and exchange.	.772
at ₄	We regularly meet in facilities that are related to the life or environment of our customers.	.690
at ₅	Meeting and discussion areas (e.g., cafeterias) exist where information can be exchanged informally across hierarchies.	.655

Proactive Customer-Oriented InfrastructureAVE = .54; CR = .82; α = .72

in ₁	We have a contact point to collect insights about future needs of our customers.	.787
in ₂	We discuss upcoming environmental changes all together in our business unit.	.715
in ₃	We award employees that successfully identify needs before they were articulated by customers.	.678
in ₄	We use an early warning system to detect changes in our market.	.763

Proactive Customer Oriented ProcessesAVE = .56; CR = .84; α = .74

ci	Parcel 1: Customer Integration	.765
qm	Parcel 2: Qualitative Methods	.736
tw	Parcel 3: Trend Watching	.720
sa	Parcel 4: Scenario Approaches	.782

Customer IntegrationAVE = .52; CR = .84; α = .77

ci ₁	We integrate customers into early innovation stages to learn about their needs.	.739
ci ₂	We incorporate feelings and preferences of our customers during product development.	.759
ci ₃	We accompany customers in their daily life to learn about the use of our products.	.643
ci ₄	We work closely together with lead users who try to recognize customer needs months or even years before the majority of the market recognizes them.	.650
ci ₅	Our innovation processes are open towards customers.	.689

Qualitative MethodsAVE = .48; CR = .82; α = .73

qm ₁	We conduct future-oriented focus groups with experts.	.767
qm ₂	Projective methods are used to gain insights into customers' latent needs.	.727
qm ₃	We observe and participate in communities of our customers.	.685
qm ₄	We conduct virtual tests of concepts and products.	.735
qm ₅	We systematically forecast possible futures with panels of experts.	.688

Trend Watching

AVE = .75; CR = .86

tw ₁	We monitor trends in society that signal changes in our customers' needs.	.894
tw ₂	We scan technological trends that may impact customer needs.	.834

Scenario ApproachesAVE = .62; CR = .83; α = .70

sa ₁	Scenario management techniques are used to gain insights about the future.	.782
sa ₂	We identify new markets with the umbrella method.	.776
sa ₃	We are engaged in determining the impact of unforeseeable events.	.806

Exploratory InnovationAVE = .63; CR = .87; α = .81

er ₁	We invent new products and services.	.833
er ₂	We experiment with new products and services in our local market.	.844
er ₃	We commercialize products and services that are completely new to our business unit.	.838
er ₄	We frequently utilize new opportunities in new markets.	.656

Exploitative InnovationAVE = .71; CR = .91; α = .87

ei ₁	We frequently refine the provision of existing products and services.	.802
ei ₂	We regularly implement small adaptations to existing products and services.	.875
ei ₃	We introduce improved, but existing products and services for our local market.	.871
ei ₄	We improve our provision's efficiency of products and services.	.827

Customer Value

AVE = .91; CR = .95

cv ₁	Relative to your competitors, how are you performing on customer retention?	.954
cv ₂	Relative to your competitors, how are you performing on customer satisfaction?	.952

Business PerformanceAVE = .74; CR = .92; α = .88

bp ₁	Relative to your competitors, how is your business unit performing on turnover?	.800
bp ₂	Relative to your competitors, how is your business unit performing on profit?	.861
bp ₃	Relative to your competitors, how is your business unit performing on growth?	.880
bp ₄	Relative to your competitors, how is your business unit performing on market share?	.884

Future FocusAVE = .89; CR = .96; α = .93

ff ₁	We give more emphasis to customers of the future, relative to current customers.	.897
ff ₂	Market research efforts are aimed at obtaining information about customers' needs in the future, relative to their current needs.	.929
ff ₃	We are oriented more towards the future than the present.	.893

Willingness to Cannibalize

AVE = .68; CR = .81

wc ₁	We support projects even if they could potentially take away sales from existing products.	.853
wc ₂	We are very willing to sacrifice sales of existing products in order to improve sales of our new products.	.798

Tolerance for FailureAVE = .84; CR = .94; α = .90

tf ₁	It is understood that failure is a necessary part of success.	.892
tf ₂	Failure is accepted as an inevitable byproduct of taking many initiatives.	.865
tf ₃	A mistake is seen as an opportunity to learn.	.883

Constructive ConflictAVE = .74; CR = .92; α = .88

cc ₁	There is a constructive challenge of ideas, beliefs and assumptions.	.884
cc ₂	People are comfortable about raising dissenting viewpoints.	.806
cc ₃	Even people who disagree respect each other's viewpoints.	.854
cc ₄	Different opinions or views focus on issues rather than on individuals.	.770

Responsive Market OrientationAVE = .60; CR = .88; α = .83

mo ₁	We constantly monitor our level of commitment and orientation to serving customer needs.	.749
mo ₂	Our strategy for competitive advantage is based on our understanding of customers' expressed needs.	.811
mo ₃	We measure customer satisfaction systematically and frequently.	.708
mo ₄	We are more customer focused than our competitors.	.821
mo ₅	I believe this business exists primarily to serve customers.	.765

Technology OrientationAVE = .74; CR = .89; α = .82

to ₁	Our business unit uses sophisticated technologies in its new product development.	.802
to ₂	Our new products are always state of the art regarding their technology.	.891
to ₃	We deal a lot with new technologies.	.879

FormalizationAVE = .80; CR = .92; α = .87

fo ₁	The corporate office has much more influence than the managers within our business unit in formulating the strategy.	.865
fo ₂	Even small issues have to be referred to someone in the corporate office for a final answer.	.810
fo ₃	All decisions for the business unit need the corporate office's approval.	.894

Strategic RigidityAVE = .67; CR = .91; α = .87

sr ₁	Our business unit's strategic mission is defined quite narrowly and rigidly.	.864
sr ₂	Our business unit's mission allows little flexibility to expand the domain of our operations.	.862
sr ₃	Any activity outside our strategic mission is actively discouraged.	.805
sr ₄	It is difficult to change or strategic mission to meet new challenges.	.838
sr ₅	We emphasize the flexible allocation of resources to distinct projects. (reverse coded)	.697

Organizational ValuesEntrepreneurial Values

This company is very dynamic and entrepreneurial.

Effective leaders in this company are generally considered to be innovators or risk-takers.

This company is held together by commitment to innovation and development.

This company emphasizes growth and acquiring new resources.

Bureaucratic Values

This company is formalized and structured.

Effective leaders in this company are generally considered to be coordinators and organizers.

This company is held together by formal rules and policies.

This company emphasizes permanence and stability.

Competitive Values

This company is task- and achievement-oriented.

Effective leaders in this company are generally considered to be producers and doers.

This company is held together by task and goal accomplishment.

This company emphasizes competitive actions and achievement.

Consensual Values

This company is personal. It is like a family.

Effective leaders in this company are generally considered to be mentors and sages.

This company is held together by loyalty and tradition.

This company emphasizes people and human resources.

Marketing Spending

How high was your marketing spending in the last two years compared to the competition?

R&D Spending

How high was your R&D spending in the last two years compared to the competition?

Market Share

Over the last three years, how large was the average market share of your business unit in your most important market?

Industry Type

Main Industry Characteristics: [1] Business-to-business versus [2] business-to-consumer.

Business Unit Size

How many employees are in your business unit in total? (log)

Business Unit Age

For how many years has your business unit existed? (log)

Proactive Market Orientation

AVE = .70; CR = .90; α = .85

po ₁	We help our customers anticipate developments in their markets.	.716
po ₂	We try to discover additional needs of our customers of which they are unaware.	.887
po ₃	We brainstorm on how customers use our products and services.	.746
po ₄	We search for opportunities in areas where customers have a difficult time expressing their needs.	.867

Customer Perspective

Perceived Proactive Customer Orientation (Customer)

AVE = .76; CR = .94; α = .86

pp ₁	The firm [] excels at anticipating changes in what we need from them before we even ask.	.914
pp ₂	The firm [] seems to spend time studying changes in our business environment so they can exercise better foresight about our future needs.	.884
pp ₃	The firm [] successfully anticipates changes in our needs.	.836
pp ₄	The firm [] presents new solutions to us that we actually need but did not think to ask about.	.868
pp ₅	The firm [] presents new ideas to us that help us keep pace with our changing environment.	.850

Perceived Exploratory Innovation (Customer)

AVE = .79; CR = .88

pe ₁	The firm [] continuously invents new products and services.	.884
pe ₂	The firm [] is ahead of the competition when it comes to innovation.	.895

Perceived Exploitative Innovation (Customer)

AVE = .87; CR = .93

pi ₁	The firm [] frequently refines existing products and services.	.915
pi ₂	The firm [] regularly implements small adaptations to existing products and services.	.952

Perceived Customer Value (Customer)AVE = .84; CR = .96; α = .95

pv ₁	The firm [] creates superior value for us when comparing all the costs versus benefits in the relationship.	.941
pv ₂	Considering the costs of doing business with [], we gain a lot in our overall relationship with them.	.914
pv ₃	Our company gains significant customer value from the relationship with [].	.859
pv ₄	Overall, my company is very satisfied with its relationship with [].	.936
pv ₅	We intend to continue doing business with [] for the foreseeable future.	.937

9.5 Data Sources of the Case Studies

Firm	Katjes GmbH	Phonak GmbH	GE Healthcare	BMW Group
Cluster	Resource Constrained Innovator	Technology Driven Innovator	Integrated Innovator	Network Innovator
Interviews	Phone interview (03.11.2010) with Marketing Manager.	Personal interview (25.03.2009) with Marketing and Sales Manager.	Personal interview (25.02.2009) and several phone interviews with Marketing Manager.	Personal interview (25.03.2009) with Marketing Innovation Manager.
Workshops and Work Experience	Work experience of the author within the International Sales and Marketing Department.	More than 20 workshops related to proactive customer orientation during July 2007 and August 2010.	-	More than 30 workshops related to proactive customer orientation during July 2007 and August 2010.
Existing Publications	Dengel 2010	-	Trumann and Herhausen 2008	Kruthoff 2005; Schögel et al. 2003; Tomczak, Kruthoff, Koenders, and Schögel 2005; Hibberd 2009
Web Pages	katjes.com katjes.de	phonak.com sonova.com hear-the-world.com	ge.com gehealthcare.com gelifesciences.com healthy-magination.com	bmw.com bmwgroup.com ifmo.com
Internal Documents	Internal presentations, documentations, and guidelines.	Internal presentations.	Internal presentations and documentations.	Internal presentations.
Approval of Case Study	Description of the case approved by Marketing Manager of Katjes GmbH.	Description of the case approved by Marketing Manager of Phonak GmbH.	Description of the case approved by Marketing Manager of GE Healthcare.	Description of the case approved by Marketing Manager of BMW Group.