RESEARCH

Kristian Döscher

Recovery Management in Business-to-Business Markets

Conceptual Dimensions, Relational Consequences and Financial Contributions

Springer Gabler

Recovery Management in Business-to-Business Markets

Kristian Döscher

Recovery Management in Business-to-Business Markets

Conceptual Dimensions, Relational Consequences and Financial Contributions

With a foreword by Prof. Dr. Jens Hogreve

Springer Gabler

Kristian Döscher
Ingolstadt, Germany

Dissertation an der Katholischen Universität Eichstätt-Ingolstadt, 2013

ISBN 978-3-658-05636-0 ISBN 978-3-658-05637-7 (eBook)
DOI 10.1007/978-3-658-05637-7

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at http://dnb.d-nb.de.

Library of Congress Control Number: 2014936477

Springer Gabler

Printed on acid-free paper

Springer Gabler is a brand of Springer DE.
Springer DE is part of Springer Science+Business Media.
www.springer-gabler.de

Geleitwort

Die von Herrn Dr. Döscher vorgelegte Arbeit beschäftigt sich mit einem für Produkt- und Dienstleistungsanbieter hochrelevantem Thema, der effektiven Handhabung von Fehlern. Der korrekten Begegnung von Fehlern kommt eine besondere Bedeutung zu, da das Auftreten von Fehlern eine Nagelprobe für jede Geschäftsbeziehung darstellt. Während Recovery-Maßnahmen im Dienstleistungs- und hier insbesondere im Konsumentenkontext schon seit Jahren im Fokus der wissenschaftlichen Diskussion stehen, finden sich in der B2B-Literatur nur vereinzelt Arbeiten, die sich mit dem effektiven Management von Fehlersituationen beschäftigen. Der in der Dienstleistungsliteratur geprägte Begriff des „Recovery-Managements" bezieht sich in diesem Zusammenhang auf alle Aktivitäten eines Anbieters aufgetretene Fehler zu handhaben und möglichst eine Wiederherstellung der Zufriedenheit und insbesondere Loyalität eines Kunden zu erreichen.

Die bisherige Forschungsarbeit im Bereich „Recovery" bezieht sich überwiegend auf Konsumentenmärkte. Studien, die sich intensiv mit einem Beschwerde- oder Recovery-Management aus der Sicht eines Industriegüter- oder Zulieferunternehmens beschäftigen, sind selten zu finden. Dies ist erstaunlich, kann doch der besonderen Pflege einer Geschäftsbeziehung aufgrund der Komplexität der Angebote im B2B-Kontext eine sehr hohe Relevanz beigemessen werden. Diese Pflege der Geschäftsbeziehung ist nach einem Produkt- oder Dienstleistungsfehler umso bedeutender. Da sich die Erkenntnisse der Forschung auf Konsumentenmärkten jedoch nicht unmittelbar auf die Handhabung von Fehlern in einem B2B-Kontext übertragen lassen, kommt der theoretischen und empirischen Analyse eines Recovery-Managements im B2B-Kontext eine signifikante Bedeutung zu. Das effektive Management von Fehlersituationen hat nicht nur einen Einfluss auf die „weichen" Faktoren der Geschäftsbeziehung, wie die Kundenzufriedenheit, sondern sollte zudem Auswirkungen auf die Profitabilität eines Unternehmens zeigen.

Um diese Lücke in der Literatur zu schließen, bedient sich die Arbeit von Dr. Döscher einer reaktiven und proaktiven Perspektive des Recovery-Managements. Während reaktive Maßnahmen die Regel in Recovery- und Beschwerdemanagementprozessen darstellen, stellt sich der Autor zudem die Frage, ob nicht auch proaktive Maßnahmen ein probates Mittel im Rahmen von Recovery-Prozessen sein könnten. Beide Recovery-Praktiken werden im Rahmen der Arbeit sowohl qualitativ als auch quantitativ empirisch analysiert.

Auf diese Weise schließt Herr Dr. Döscher eine bedeutende Lücke in der Marketingforschung. Herr Dr. Döscher leistet einen signifikanten Beitrag 1. zur theoretischen Erschließung des Recovery-Begriffs und den sich ableitenden Maßnahmen in einem B2B-Kontext, 2. zur empirischen Analyse identifizierter Recovery-Maßnahmen und 3. zur Etablierung einer neuen Recovery-Dimension „proaktives Recovery“. Die Ergebnisse sind für die Marketingforschung relevant, da sie die bestehende Literatur im Dienstleistungs- und B2B-Marketing signifikant ergänzen. Der Beitrag der vorliegenden Arbeit ist für die Marketingpraxis bedeutend, da die Ergebnisse Unternehmen helfen können über ein effektives Recovery-Management Geschäftsbeziehungen erfolgreicher und langfristig profitabler zu gestalten.

Somit enthält die Arbeit sowohl weiterführende Erkenntnisse für den Wissenschaftler zur Wirkungsweise von proaktiven und reaktiven Service Recovery Aktivitäten als auch für den praktischen Anwender zur konkreten Gestaltung eines Recovery Managements im B2B-Kontext. Ich wünsche der Arbeit eine breite Akzeptanz in Forschung und Praxis.

Prof. Dr. Jens Hogreve

Preface

"A man who has committed a mistake and doesn't correct it is committing another mistake." (*Confucius, a Chinese philosopher, 551 – 479 B.C.*)

This principle is applicable in private life as well as business life and may be related to several situations. Since mistakes or failures cannot be prevented in principle, it is essential how failure situations are being handled. While mistakes in private life may be resolved reasonably simple, the handling of failure situations in business life is certainly more complex since a large number of social, economical, technical and political factors need to be considered.

As failure situations in business-to-business markets have the potential to damage and even diminish long-term customer relationships, it is critical for seller firms to understand the most effective measures by which product or service failures may be recovered. Although research on recovery in business-to-consumer markets has derived substantial findings on the most appropriate recovery measures, only few findings on adequate measures for the recovery of customer relationships in business-to-business markets have been identified till date.

Based on this substantial research gap, an exciting research process emerged to identify the fundamental recovery measures relevant for business-to-business markets and their impact on customer relationships and the financial situation of the seller firm based on qualitative as well as quantitative methodology. The results of the present thesis emphasize that the application of "effective" recovery measures may yield a positive impact on the business relationship between seller and customer firms after failure situations. Furthermore, the selection of effective recovery measures may exert a positive impact on the financial situation of the seller firm. Considering the increasing competitive intensity in several business-to-business markets, an effective recovery management unfolds new possibilities for seller firms to intensify and strengthen its customer relationships and prevent the defection of customers subsequent to failure situations.

The present thesis evolved during my position as an external doctoral student at the Chair of Service Management at the University of Paderborn and the Catholic University of Eichstätt-Ingolstadt. I would like to express my highest gratitude towards my thesis supervisor Professor Dr. Jens Hogreve for the demanding and encouraging discussions, the creative and con-

structive meetings, the inspiring enthusiasm for research and the introduction into the academic world of service management. Furthermore, I would like to thank Professor Dr. Andreas Eggert for the acceptance of the second appraisal, the sound basic education in marketing and the introduction into the academic world of business-to-business marketing. I am also thankful to my academic companions Dr. Sabine Hollmann and Dr. Eva Münkhoff at the University of Paderborn as well as Dr. Nicola Bilstein and Mr. Tönnjes Eller at the Catholic University of Eichstätt-Ingolstadt for their encouragements between the valley of tears and the hills of euphoria during the writing of this thesis.

Since I have written the present thesis besides different sales & marketing positions in two large industrial firms in Germany, I am grateful to those superiors during this time period, who have substantially supported this thesis. Due to these fine colleagues, the practical relevance of the investigation and the transferability of the results to business practice has never been neglected, but remained in the focus of the thesis. Moreover, I would like to thank my industrial companions, especially Dr. Florian Kienzle, Dr. Tommy Wetzel and Dr. Lars Leway, for the creative, inspiring and motivating discussions, which made the completion of the thesis more enjoyable.

At last, I would like to thank my family with all my heart for several years of deprivation and absence due to the thesis. I would like to express my deepest appreciation to my wife Kirsten for the infinite patience, the immense understanding and the numerous encouragements, which have only made possible to write this thesis. In addition, I am grateful to my daughter Charlotte for her continuous acceptance of the long working days at the desk and the wonderful distractions besides the desk. I am further thankful to my parents for their unlimited trust in my skills, their unconditional support of my dreams and their early freedom that allowed me to explore the world. As a consequence, the present thesis is dedicated to my entire family.

Kristian Döscher

Contents

Figures

Page

Tables

Abbreviations

AVE	Average Variance Extracted
B-to-B	Business-to-Business
B-to-C	Business-to-Consumer
CL	Comparison Level
CL_{alt}	Comparison Level of Alternatives
CR	Composite Reliability
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
M	Mean value
OLS	Ordinary Least Squares
PC	Path Coefficient
PLS	Partial Least Squares
PRI	Proactive Recovery Interaction
PRO	Proactive Recovery Outcome
PRP	Proactive Recovery Process
QDA	Qualitative Data Analysis
QRI	Quality of Recovery Interaction
QRM	Quality of Recovery Management
QRO	Quality of Recovery Outcome
QRP	Quality of Recovery Process
RM	Respondent Manufacturer
ROS	Return On Sales
RRI	Reactive Recovery Interaction
RRO	Reactive Recovery Outcome
RRP	Reactive Recovery Process
RS	Respondent Supplier
SD	Standard Deviation
SEM	Structural Equation Modeling
TV	Tolerance Value
VIF	Variance Inflation Factor

1 Introduction

1.1 Relevance for academic investigation

In the year 2010, a failure of the Trent 900 aircraft engine supplied by Rolls Royce PLC to the aircraft manufacturer Airbus S.A.S. resulted in the grounding of the entire A380 fleet of Airbus's customer Qantas Airways Ltd. for several days (Mouawad 2010). For its inappropriate response and information on the failure incident, Rolls Royce received substantial criticism from its customers and the media (Michaels and Pasztor 2010). In contrast to Rolls Royce, Qantas engaged in proactive information on the background of the incident and the actions taken to resolve the situation and attained a positive impact on its reputation for the way of handling the incident (Collerton 2010). For Rolls Royce, the failure situation and its way of handling it had a negative impact on its market reputation, raising doubts on its capabilities to develop and manufacture reliable aircraft engines. Consequently, the failure incident resulted in a significant drop of the Rolls Royce shares at the London Stock Exchange (Clark and Mouawad 2010) and substantially lower profits for Rolls Royce in the respective financial year (Mustoe and Rothman 2010).

On the basis of this example, it gets evident that customer relationships may be restrained by product or service failures, which frequently occur in the course of business-to-business relationships (e.g., Backhaus and Bauer 2001; Maxham and Netemeyer 2002a; Van Doorn and Verhoef 2008). Since the products or services supplied by seller firms have a significant impact on the operational processes of customer firms (Hutt and Speh 2004, p. 14), failures of products or services may have a significant impact on customer relationships (Backhaus and Bauer 2001, p. 46) and the financial situation of the seller firm (Van Doorn and Verhoef 2008, p. 124). In particular, Backhaus and Bauer (2001) argued that "one single failure in an unexpected situation can turn a positive satisfaction assessment that was build over years, into the converse" (p. 46). Since customer satisfaction represents a key factor for the development and maintenance of customer relationships in business markets (Homburg and Rudolph 2001, p. 16), product or service failures may severely damage long-term customer relationships (Hutt and Speh 2004, p. 109). Under certain conditions, these failures may even result in the termination of the customer relationship (Durvasula, Lysonski and Metha 2000, p. 434). Since customers in business-to-business markets usually represent a significant share of the revenues, the termination of the relationship by the customer attains a harmful prospect for the seller firm (Tsiros, Ross and Mittal 2009, p. 272), which significantly threatens the long-term profitability of the seller firm (Robinson, Neeley and Williamson 2011, p. 90).

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_1, © Springer Fachmedien Wiesbaden 2014

Although seller firms may not be able to completely prevent the occurrence of failures, they have the possibility to develop mechanisms to effectively recover from these failure situations (Hart, Heskett and Sasser 1990, p. 148). In particular, empirical findings reflect that the effective handling of failures enhances *customer satisfaction* (e.g., Maxham 2001; Smith and Bolton 1998), reinforces *customer relationships* (e.g., Lockshin and McDougall 1998; McCollough, Berry and Yadav 2000; Robinson, Neeley and Williamson 2011), improves *repurchase intentions* (e.g., Maxham and Netemeyer 2002b, 2003; Smith, Bolton and Wagner 1999), increases *positive word-of-mouth intentions* (e.g., Maxham 2001) and facilitates *profitability* of seller firms (e.g., Hoffman and Kelley 2000; Stauss and Schöler 2004). In contrast, previous research reflects that the ineffective handling of failure situations significantly reduces *customer satisfaction* (e.g., Cranage and Mattila 2005; Michel 2001) and increases *customer defections* (e.g., Andreassen 2001; Hoffman and Kelley 2000; La and Kadampully 2004). In particular, ineffective recovery strengthens the negative effects of failures on customer relationships (Shapiro and Nieman-Gonder 2006, p. 126) and deteriorates the profitability of seller firms (La and Kadampully 2004, p. 392). Consequently, Boshoff (2005) argued that "if service firms do not manage service recovery properly, it could harm their long-term success prospects" (pp. 410-411).

In the specific failure situation, customers decide whether to continue or terminate the business relationship with the seller firm (Colgate and Norris 2001, p. 218). The response of the seller firm has the potential to either settle the situation and strengthen the relationship or exacerbate the situation and deteriorate the relationship (Smith, Bolton and Wagner 1999, p. 356). Therefore, the recovery activities of the seller firm should be considered as an opportunity to reinstate (Gonzalez, Hoffman and Ingram 2005, p. 58) and strengthen (Lin 2006, p. 83) the customer relationship after a product or service failure situation. Previous studies have stressed the fundamental relevance of recovery for the development of long-term customer relationships in business markets (Lages, Lancastre and Lages 2008, p. 686). Nevertheless, despite the importance of effective failure handling for the development of customer relationships in business markets, empirical findings reflect that many seller firms fail to provide effective recovery (Johnston and Michel 2008, p. 94). In particular, findings of an empirical study reflect that only twenty percent of the complaining customers were satisfied with the recovery activities of the seller firm (Holloway and Beatty 2003, p. 97). In another study in business markets, twenty-five percent of the participants reflected significant dissatisfaction with the procedures of the seller firm to handle complaints (Zolkiewski et al. 2007, p. 318). Consequently, an inconsistent implementation of recovery management in business markets has been reflected by previous research (Bhandari, Tsarenko and Polonsky 2007, p. 174).

With respect to these deficiencies, further knowledge on the nature of recovery management in business-to-business markets is required. In general, Smith and Bolton (1998) suggested that recovery research "is likely to be particularly valuable in a business-to-business setting, in which relationship marketing issues are very important" (p. 78). Considering the negative effects of failures on customer relationships (Backhaus and Bauer 2001, p. 46) and the high relevance of customer relationships (Sheth and Sharma 2006, p. 260) in business-to-business markets, a comprehensive understanding of the characteristics and consequences of recovery management in this market context is essential for recovery researchers and practitioners alike. Accordingly, prior research has confirmed that "extending service recovery research to the RM [Relationship Marketing, comment by the author] domain to develop strategies for 'relationship recovery' also might be worthwhile" (Palmatier et al. 2006, p. 151). Since the capabilities of seller firms to identify and resolve problems represents a critical task for the management of relationships in business markets (Strandvik and Holmlund 2008, p. 362), an understanding of the pathways towards effective recovery management is assumed to enable seller firms to increase the strength and length of its customer relationships and improve its financial performance, despite occurring failure situations. The present thesis aims to develop such an understanding by pursuing a theoretically and empirically grounded investigation of the *conceptual dimensions*, *relational consequences* and *financial contributions of recovery management in business-to-business markets* and, thus, contribute to a further development of contemporary recovery research and practice.

1.2 Definition of research questions

To gain an understanding of the nature of recovery management in business markets, a detailed examination of the current state of knowledge in recovery research has been conducted. On the basis of a profound review of the existing literature, four *fundamental research gaps* have been identified, which legitimate further research on recovery management in business-to-business markets. To verify whether these knowledge gaps are also apparent in recovery practice, a substantial number of qualitative interviews in business-to-business markets have been performed. Based on the feedback from practitioners, these gaps are highly relevant for recovery practice as well. Therefore, an examination of the following research gaps is assumed to contribute to the advancement of recovery research and practice likewise. To address these prevailing research gaps, four fundamental research questions have been defined to structure and guide the subsequent investigation on *recovery management in business-to-business markets*. The respective findings shall contribute to an improvement of the *effectiveness* and the *efficiency* of handling failure situations in business markets.

The *first research question* is related to the conceptual dimensions of recovery management in business-to-business markets. According to marketing literature, business markets reflect significantly different characteristics compared to consumer markets such as *higher complexity of seller-buyer interactions* (Parasuraman 1998, p. 318), *larger number of transactions* (Backhaus and Bauer 2001, p. 28) and *more severe consequences of failures* (Van Doorn and Verhoef 2008, p. 124). Despite substantial research on recovery across several disciplines, existing recovery research has almost entirely focused on business-to-consumer markets, whereas only a small number of recovery studies has explicitly referred to business-to-business markets (cf. paragraph 2.2). The few existing studies related to recovery in business markets are either *industry-specific* (Durvasula, Lysonski and Metha 2000; Lockshin and McDougall 1998), focused on the *sales context* (Gonzalez, Hoffman and Ingram 2005; Gonzalez et al. 2010) or restricted to *structural dimensions* (Smith and Karwan 2010; Smith, Karwan and Markland 2009). On the basis of these studies, current recovery research provides only a limited perspective on the nature of recovery in business markets. Due to the fundamental differences between business and consumer markets (Hutt and Speh 2004, pp. 9-10), theoretical concepts of recovery developed in consumer markets may be inappropriate for business markets. Accordingly, Narayandas (2005, p. 131) argued that conceptualizations developed for consumer markets are likely to fail under business market conditions. Furthermore, Grewal, Roggeveen and Tsiros (2008, p. 182) stated that customer expectations regarding recovery significantly differ between business and consumer markets. Based on this notion, the transferability of recovery conceptualizations developed for consumer markets to business markets needs to be challenged. In addition, contemporary conceptualizations of recovery are based on a limited number of recovery measures. With few exceptions from the consumer market context (e.g., Boshoff 1999, 2005; Gonzalez, Hoffman and Ingram 2005), recovery research has neglected to develop a comprehensive framework considering the multiplicity of recovery measures to handle failure situations. Accordingly, Smith, Karwan and Markland (2009) noted that "research in this area has not clearly defined the dimensions of effective recovery" (p. 166). Therefore, a holistic conceptualization of recovery management for business-to-business markets is missing in contemporary recovery research, which is required for seller firms to ensure an effective recovery of product or service failures in this specific market context. This perspective is consistent with prior studies, which have called for further research on the characteristics of recovery in business markets (Lockshin and McDougall 1998, p. 437; Weun, Beatty and Jones 2004, p. 141). To close this significant research gap, the dimensions of recovery management in business-to-business markets shall be identified and conceptualized in a theoretical framework. The first research question is defined as:

1. What are the fundamental dimensions of recovery in a business-to-business context?

The *second research question* refers to the impact of recovery measures on the relationship between seller firms and customer firms. As suggested by previous literature, failure situations have a severe impact on customer relationships (Backhaus and Bauer 2001, p. 46) and may lead to the termination of the relationship by the customer (Davidow 2003, p. 226). The reaction of the seller firm to a failure situation is able to either restore customer satisfaction and, thus, retain the customer or worsen the situation, thus leading to the defection of the customer (Smith, Bolton and Wagner 1999, p. 356). An effective recovery by the seller firm may be able to mitigate the negative impact of the failure situation and even create a positive impact on the customer relationship (DeWitt, Nguyen and Marshall 2008, p. 276). Although some studies have investigated the impact of high quality relationships on customer evaluations of recovery (e.g., Hess, Ganesan and Klein 2003; Mattila 2001b), limited research has been conducted on the *effects of recovery measures on the quality of relationships*. Previous studies have investigated the effects of recovery measures on discrete relationship quality constructs such as *satisfaction* (e.g., Maxham 2001; Smith, Bolton and Wagner 1999), *trust* (e.g., DeRuyter and Wetzels 2000) and *commitment* (e.g., Kau and Loh 2006). Nevertheless, findings on discrete relationship quality constructs may not be sufficient to entirely understand the relational effects of recovery. Bhandari, Tsarenko and Polonsky (2007) postulated that "a broad based multi-dimensional evaluation of consumer outcomes has been lacking (…) in the literature" and further argued that "focusing on only one or two outcome measures does not capture the full domain of customer responses" (p. 182). In fact, no study has empirically investigated the combined effects of recovery measures on the quality of relationships between customer and seller firms – neither in consumer markets nor in business markets. To the best of the author's knowledge, only one study (Vázquez-Casielles, Suárez Álvarez and Díaz Martín 2010) has investigated the impact of recovery on relationship quality in business-to-consumer markets. The findings of this study, however, were based on justice perceptions of recovery and, thus, did not capture the distinct effects of recovery dimensions on relationship quality. Furthermore, this study was related to the indirect effects (i.e. mediated by recovery satisfaction) of recovery on relationship quality and, hence, failed to disclose the direct effects of recovery measures on the quality of relationships. Therefore, it is postulated that contemporary recovery research has yet abandoned the relational effects of recovery measures on the quality of customer relationships in business markets. A solid understanding of the long-term effects of recovery measures on the quality of relationships with customers is required for seller firms to maintain and develop its customer relationships after failure situations. To close this substantial research gap, the impact of recovery dimensions on the relationship between seller and customer firms shall be assessed and the second research question reads as:

2. ***What is the impact of recovery dimensions on relationships in a business-to-business context?***

The *third research question* relates to the distinct effects of proactive versus reactive recovery dimensions on relationships in business markets. In literature, recovery has been frequently conceptualized from a *reactive perspective* where recovery activities of the seller firm are conducted after customers have complained to the seller firm (Miller, Craighead and Karwan 2000, p. 389). More recently, recovery has been conceptualized also from a *proactive perspective* where recovery activities are initiated before customers have actually complained (DeWitt and Brady 2003, p. 203). Taking a proactive perspective on recovery allows seller firms to address dissatisfied customers, who have been incapable or reluctant to disclose their dissatisfaction to the seller firm (Smith, Bolton and Wagner 1999, p. 359). A proactive perspective on recovery is important since taking a solely reactive stance in the handling of failures may come too late to mitigate the damages resulting from a failure situation (DeWitt and Brady 2003, p. 203). Recent recovery research reflects evidence on the positive effects of a proactive perspective on recovery (e.g., Cranage and Mattila 2005; DeWitt and Brady 2003; Worsfold, Worsfold and Bradley 2007). The empirical findings of Worsfold, Worsfold and Bradley (2007, p. 2515) convey that proactive recovery has the potential to reduce customer defections caused by failure situations. Furthermore, Gonzalez et al. (2010, p. 232) suggested that proactive recovery measures generate more positive customer outcomes than reactive recovery measures. Despite the potential contributions of proactive recovery, the majority of seller firms has based their recovery activities on a reactive perspective (Bauer, Donnevert and Hettenbach 2006, p. 9). Based on current recovery literature, it remains unclear whether proactive recovery measures reflect superior or inferior effects on customer outcome variables in comparison to reactive recovery measures. In particular, Maxham and Netemeyer (2002a) noted that it would be valuable "to better understand if and how customers respond differently when firms proactively identify and successfully fix problems before customers complain" (p. 67). Furthermore, DeJong and DeRuyter (2004, p. 458) noted that few insights exist on the interaction of reactive and proactive recovery measures in contemporary recovery literature. Consequently, several studies have suggested investigating the effects of proactive recovery on customer evaluations (DeJong and DeRuyter 2004, p. 458; Vázquez-Casielles, Iglesias and Varela-Neira 2012, p. 83; Worsfold, Worsfold and Bradley 2007, p. 2512). Since contemporary recovery literature lacks a fundamental understanding, an empirical investigation on the specific effects of proactive and reactive recovery on relationships in business markets is required. To close this relevant research gap, the distinct effects of proactive versus reactive recovery dimensions on relationships in business markets shall be investigated. Therefore, the third research question is formulated as:

3. ***What is the impact of proactive vs. reactive recovery dimensions on relationships in a business-to-business context?***

The *fourth research question* refers to the effects of recovery dimensions on the financial performance of seller firms. In general, Tax and Brown (1998) noted that the "impact of recovery strategies on a company's revenue and profitability is dramatic" (p. 75). Although several studies have suggested a positive impact of recovery activities on the profitability of the seller firm (e.g., Hart, Heskett and Sasser 1990; Hoffman and Kelley 2000; McCollough, Berry and Yadav 2000), recovery literature generally lacks empirical findings on this causal relationship. Despite these promising effects, prior research has reflected that the cost implications of recovery have not been profoundly understood (Miller, Craighead and Karwan 2000, p. 398) and empirical findings on the positive relationship between recovery dimensions and profitability are limited (Johnston and Michel 2008, p. 82). In particular, Parasuraman (2006, p. 591) argued that an integrated evaluation of recovery is required to assess the financial contributions of recovery activities to the seller firm. Furthermore, Holloway, Wang and Beatty (2009, p. 393) suggested to assess the financial effects of recovery such as the costs of recovery, the profitability of recovery and the return on investment associated with recovery. Consequently, recent research has admitted that the profitability effects of recovery measures have not been empirically investigated extensively (Gonzalez et al. 2010, p. 229; Morrisson and Huppertz 2010, p. 249). Similarly, Smith and Karwan (2010) noted that "market performance measures are much less frequently employed in service recovery studies" (p. 4). For this reason, empirical investigations on the specific contributions of recovery to the financial performance of seller firms are lacking in contemporary recovery literature. Since the measurement of the contribution of marketing activities to the financial firm performance is critical for the recognition of the marketing function within the firm (Lehmann 2004, p. 74), the question has been raised if recovery investments represent sunk costs or drivers of financial performance (Johnston and Michel 2008, p. 94). Due to the fact that the implementation of recovery management systems requires significant investments in resources such as employees, systems and processes (Smith, Karwan and Markland 2009, p. 169), seller firms need to understand if these investments represent a source of additional profits or diminishing returns. As the financial implications of recovery constitute a prerequisite for the implementation of recovery management concepts at seller firms, further knowledge on the financial consequences of recovery management in business-to-business markets is required. To close this considerable research gap, the impact of the recovery dimensions on the financial performance of seller firms in business markets shall be assessed. At last, the fourth research question reads as:

4. ***What is the impact of recovery dimensions on financial firm performance in a business-to-business context?***

1.3 Structure and course of investigation

The investigation is structured into six chapters (cf. figure 1.1). In *chapter two,* the terminological and conceptual foundation is established to introduce the theoretical concepts. In *paragraph 2.1,* the fundamental terms are defined, whereas *paragraph 2.2* presents a review of the literature. In *chapter three,* the theoretical foundation is presented to explicate the theoretical approach. Hence, *paragraph 3.1* explicates the contributions of the equity theory, *paragraph 3.2* exemplifies the contributions of the social exchange theory and *paragraph 3.3* concludes with a critical assessment. In *chapter four,* the qualitative investigation on the conceptual dimensions of recovery is presented. In *paragraph 4.1*, the structure is introduced, while *paragraph 4.2* explicates the methodology. In *paragraph 4.3*, the findings are discussed, whereas the conceptual dimensions are explained in *paragraph 4.4*. The *fifth chapter* presents the quantitative investigation on the relational and financial consequences of recovery. In *paragraph 5.1*, the structure is presented and *paragraph 5.2* explicates the methodology. In *paragraph 5.3*, the relational consequences of recovery are presented, whereas *paragraph 5.4* illustrates the financial consequences of recovery. In *chapter six,* the conclusions of the investigation are discussed. In *paragraph 6.1*, the findings are summarized, followed by a discussion of theoretical implications in *paragraph 6.2* and practical implications in *paragraph 6.3*. The thesis concludes with the limitations and avenues for further research in *paragraph 6.4*.

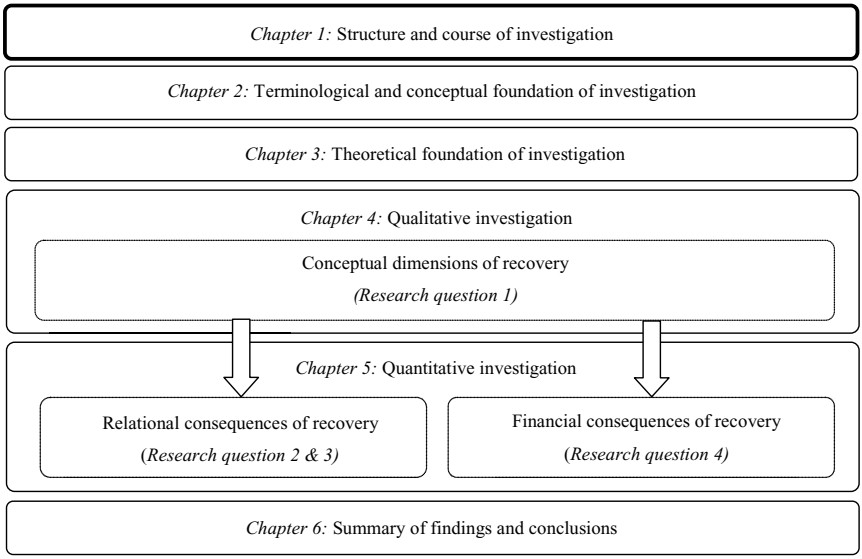


Figure 1.1: Positioning of the first chapter into the course of investigation
Source: own illustration

2 Terminological and conceptual foundation of investigation

On the basis of the research questions defined in *paragraph 1.2*, the present chapter establishes the *terminological and conceptual foundation of the investigation* to introduce the fundamental terms and concepts, which are considered in the course of the subsequent investigation (cf. figure 2.1).

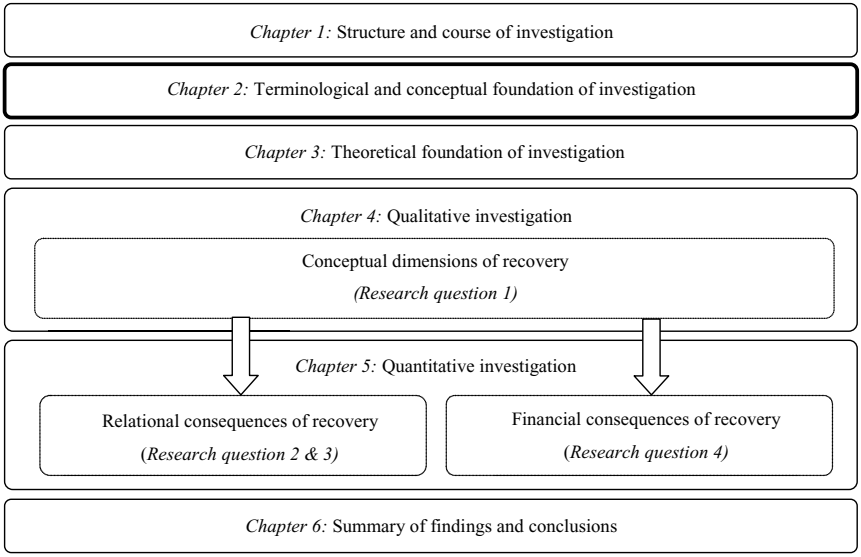


Figure 2.1: Positioning of the second chapter into the course of investigation
Source: own illustration

The terminological and conceptual foundation is structured into the paragraphs *definition of fundamental terms* (paragraph 2.1) and *review of recovery literature* (paragraph 2.2).

2.1 Definition of fundamental terms

For the comprehension of the nature of recovery management in business-to-business markets, an introduction of the fundamental terms considered in the subsequent investigation is required. A solid definition is necessary to understand the scope and the context of the fundamental terms to be able to relate findings to other investigations, which have discussed similar phenomena. In the following paragraph, the terminological foundation of the fundamental terms *business-to-business markets* (paragraph 2.1.1) and *recovery management* (paragraph 2.1.2) will be defined as the conceptual foundation for the subsequent investigation on recovery management in business markets.

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_2, © Springer Fachmedien Wiesbaden 2014

2.1.1 Terminological foundation of business-to-business markets

In contemporary marketing literature, several definitions of *business-to-business markets* have emerged, which generally differ in terms of its scope and context. Consequently, a universal definition of business markets as not emerged in literature yet. To ensure a solid terminological foundation, the term *business-to-business markets* is defined subsequently for the present investigation.

2.1.1.1 Definition of the term "business-to-business markets"

The term "*business-to-business markets"* has been defined differently across literature, but a key characteristic is the notion that customers are represented by organizations rather than consumers (Brennan, Canning and McDowell 2007, p. 2). More specifically, *business-to-business markets* have been defined to comprise

> *"firms, institutions, or governments that acquire goods and services either for their own use, to incorporate into the products or services that they produce, or for resale along with other products and services to other firms, institutions or governments" (Anderson, Narus and Narayandas 2009, p. 4).*

On the basis of this definition, it can be stated that business-to-business markets are represented by organizational entities rather than individuals, which engage in economic exchange activities with other entities. In particular, *business-to-business markets* have been differentiated into three market sectors *commercial enterprises*, *institutions* and *governments*, whereas each of these sectors reflects distinctive characteristics (Hutt and Speh 2004, p. 18). Although the transaction volume of business markets considerably exceeds those of consumer markets, the academic pervasion of business markets is largely lagging behind consumer markets (Backhaus and Voeth 2007, pp. 4-5).

2.1.1.2 Characteristics of business-to-business markets

A controversial discussion has emerged on whether a distinct marketing theory for business markets is required or a universal marketing theory, which may be applied to business-to-business and business-to-consumer markets, is sufficient. This discussion is mainly based on the inherent differences in the nature of business and consumer markets. A persuasive scope of literature supports the notion that business markets substantially differ from consumer markets along several dimensions and the same marketing approach may not be used for consumer and business markets (Cooke 1986, p. 14; Lilien 1987, p. 16; Webster 1978, p. 22). In particular, Coviello and Brodie (2001) suggested that a "classical dichotomy" between business and consumer markets is apparent in the marketing discipline (p. 383). In contrast, this dichotomy has been challenged by other studies based on the notion that more similarities than differences are existent between business and consumer markets (Fern and Brown 1984,

p. 75; Wilson 2000, p. 794). From an empirical perspective, Coviello and Brodie (2001) noted that a clear dichotomy could not be detected as marketing practice reflects that firms in consumer and business markets employ the same marketing approaches. Nevertheless, since the study of Coviello and Brodie focused on observations of *marketing practice* rather than *theoretical conceptualizations*, their findings reflect limited insights on the characteristics of business versus consumer markets. In contrast to their findings, there may be more substantial, structural differences between business and consumer markets, which require a consideration in the development of conceptual frameworks for these market contexts. A review of the recent marketing literature reveals that the characteristics of business markets significantly differ from consumer markets along several dimensions – such as *markets, products / services, customers* and *relationships* (cf. table 2.1).

Category	**Criteria**	**Business-to-Business Markets**	**Business-to-Consumer Markets**
Markets	Nature of demand	Derived demand	Direct demand
	Concentration of demand	Higher concentration	Lower concentration
	Elasticity of demand	Lower elasticity	Higher elasticity
	Volume of demand	Larger volume	Smaller volume
Products / services	Complexity	Higher complexity	Lower complexity
	Combinations	More combinations	Less combinations
	Individualization	More individualization	Less individualization
	Functionality	Higher functionality	Lower functionality
Customers	Nature	Institutions	Individuals
	Professionalism	Professionals	Consumers
	Multi-personality	Multiple individuals	Single individuals
	Rationality	Higher rationality	Lower rationality
Relationships	Continuity	Higher continuity	Lower continuity
	Importance	Higher importance	Lower importance
	Functional interdependence	Larger interdependence	Smaller interdependence
	Buyer-seller interdependence	Larger interdependence	Smaller interdependence

Table 2.1: Characteristics of business-to-business versus business-to-consumer markets
Source: adopted from Brennan, Canning and McDowell 2007, pp. 7-18

According to marketing literature, business-to-business markets differ from business-to-consumer markets based on the characteristics of the *market.*

- *Nature of demand:* The demand in business markets is derived from the demand of downstream markets (i.e. consumer markets) and therefore has been defined as “derived demand” (Kleinaltenkamp 2000, p. 176). Customer firms purchase products or services

to facilitate the production of other goods and services, while consumers buy products or services to fulfill their individual needs (Brennan, Canning and McDowell 2007, p. 9).

- *Concentration of demand:* In business markets, customers typically attain a large proportion of revenues of the seller firm and the number of customers in business markets is smaller than in consumer markets (Narayandas 2005, p. 131). Therefore, demand is concentrated among few customers with high purchasing power, while demand in consumer markets is allocated across many customers with low purchasing power (Tsiros, Ross and Mittal 2009, p. 272).
- *Elasticity of demand:* Since customer firms in business markets are dependent on the reliable supply of products or services for their operations, these are assumed to be less price-elastic than individual consumers (Hutt and Speh 2004, p. 10). Accordingly, business markets reflect a reversed price elasticity of demand due to the criticality of supply (Brennan, Canning and McDowell 2007, pp. 13-14).
- *Volume of demand:* In comparison to consumer markets, transactions in business markets tend to be much larger in value (Narayandas 2005, p. 131). The volume of transactions where the customer is an organization, is larger than those where the customer is an individual consumer (Hutt and Speh 2004, p. 4).

Furthermore, business-to-business markets further discern from business-to-consumer markets on the basis of the characteristics of its *products and services*.

- *Complexity of products and services:* The degree of complexity of products and services in business markets is usually higher than in consumer markets (Cooke 1986, p. 13). Accordingly, business markets reflect a larger complexity of transactions, which makes critical incidents more likely to occur (Backhaus and Bauer 2001, p. 28).
- *Combinations of products and services:* Due to the technical complexity of products and services and its importance for their operations, customers in business markets often demand supplementary services (Lilien 1987, p. 15). Thus, tangible products are frequently accompanied by intangible services before and after the sale in a business market context (Hutt and Speh 2004, p. 13).
- *Individualization of products and services*: Customers in business markets tend to reflect more specific requirements, which results in individual specifications for products and services (Homburg and Rudolph 2001, p. 16). Therefore, business customers frequently demand customized products, volumes or prices in contrast to consumer markets where a large number of customers share similar needs (Narayandas 2005, p. 131).
- *Functionality of products and services:* In general, customers in business markets primarily draw upon the functionality or performance of products and services as the central decision criteria, whereas customers in consumer markets tend to base purchasing

decisions on individual aesthetics or personal taste (Anderson, Narus and Narayandas 2009, p. 5).

With respect to the existing literature, business-to-business markets may be further differentiated from business-to-consumer markets based on the characteristics of its *customers*.

- *Nature of customers:* Customers in business markets are represented by organizations such as firms, governments or institutions, whereas customers in consumer markets consist of individual consumers (Hutt and Speh 2004, p. 32).
- *Professionalism of customers:* The level of professionalism of customers in business markets has been considered as one of the key factors differentiating organizational from consumer buying (Wilson 2000, p. 783). More specifically, customers in business markets engage in purchasing processes designed and executed by professionals compared to rather inexperienced customers in consumer markets (Brennan, Canning and McDowell 2007, p. 14).
- *Multiplicity of customers:* Since multiple individuals need to be considered in organizational buying decisions (Hutt and Speh 2004, p. 74), purchasing decisions in business markets are usually taken by a larger group of managers (i.e. buying center) compared to individual customers in consumer markets (Brennan, Canning and McDowell 2007, pp. 39-42).
- *Rationality of customers:* In business markets, decision-making is generally based on objective criteria such as requirements and cost efficiency rather than subjective criteria such as brand or image (Cooke 1986, p. 11). Accordingly, organizational buying is rather based on rationality, while consumer buying is based on consciousness (Wilson 2000, p. 783).

With respect to the *relationships* between sellers and customers in business-to-business markets, substantial differences compared to business-to-consumer markets have been identified in literature.

- *Continuity of relationships:* According to prior research, relationships constitute the foundation of business marketing (Håkansson and Snehota 2000, p. 75). Therefore, relationships between sellers and customers in business markets tend to be more intensive and continuing compared to consumer markets (Hutt and Speh 2004, p. 13).
- *Importance of relationships:* In business markets, relationships have been acknowledged to be more important to customers since "a firm's success in business markets depends directly on its working relationships" (Anderson and Narus 2004, p. 21).

- *Functional interdependence*: Buyer-seller relationships in business markets tend to reflect a higher degree of functional interdependence in contrast to relationships between sellers and customers in consumer markets (Hutt and Speh 2004, p. 7).
- *Buyer-seller interdependence*: In general, business markets reflect a higher degree of interdependence between customer and seller compared to consumer markets since products or services are integrated into the operational processes of the customer firm (Webster 1978, p. 23).

Based on these specific characteristics, it gets apparent that business-to-business markets substantially differ from business-to-consumer markets. Hence, previous research has acknowledged that business and consumer markets reflect significantly different requirements (Hutt and Speh 2004, pp. 9-10). Since conceptualizations developed for consumer markets are likely to fail under business market conditions, the development of conceptualizations specific to the business market context are required to prevent theoretically distorted conceptualizations and misleading findings (Narayandas 2005, p. 131). On the basis of the definition of business-to-business markets provided by Anderson, Narus and Narayandas (2009, p. 4), the present investigation focuses on the market context where organizations exchange products or services for their own utilization to incorporate these in their own products of services or reselling these to other firms. Consequently, non-profit organizations and government institutions are not considered in the scope of this investigation since these types of entities are assumed to reflect different characteristics and requirements.

2.1.2 Terminological foundation of recovery management

Consistent with the terminological basis of *business-to-business markets*, the terminological foundation of recovery management is based on the definition of the term *recovery management* (paragraph 2.1.2.1) and the delineation of the term *recovery management* (paragraph 2.1.2.2).

2.1.2.1 Definition of the term “recovery management”

Over the last three decades, several definitions of the term “recovery” have emerged in academic research. This situation may be related to the fact that academic research on recovery has developed across several disciplines (i.e. service marketing, relationship marketing, and operational research), while being in the course of emerging into a general research stream (Parasuraman 2006, p. 590). The term *recovery* has been applied across various research contexts. During the 1960s, the term *recovery* has been widely used for the restoration of information technology equipment or the restitution from natural catastrophes (Brown, Cowles and Tuten 1996, p. 34). From the late 1970s, scholars began to relate *recovery* to the restoration of service failures (e.g., Andreasen and Best 1977) and in the 1980s the resulting benefits such as customer satisfaction and loyalty were discussed (e.g., Bell and Zemke 1987). In the 1990s,

scholars began to develop the first theoretical concepts of *recovery* based on anecdotic (e.g., Hart, Heskett and Sasser 1990) and empirical (e.g., Johnston 1995) evidence. From the late 1990s, the concept of recovery gained increased attention by researchers from several disciplines. Accordingly, scholars have noted that recovery research has attained significant consideration in the academic literature (Parasuraman 2006, p. 590), but still "is in need of consolidation" (Smith, Karwan and Markland 2009, p. 178). Nevertheless, despite the large number of studies, till date contemporary recovery research lacks a universal definition of the term "recovery". This situation is certainly caused by the fact that the term has been related to different concepts and associated with different meanings. In operations research, *recovery* has been used to describe the return and recycling of products at the *end of life* stage in the product life cycle (e.g., Thierry et al. 1995; Toffel 2004), thus, being focused on the recovery of ecological value of products (*product recovery*). In service research, *recovery* has been related to the restoration of customers (*customer recovery*) with the aim to reinstate customer satisfaction (e.g., Priluck and Lala 2009). Furthermore, *recovery* has been related to the support of employees in dealing with failure situations (*employee recovery*) intended to lead to satisfied employees after recovery (e.g., Johnston and Michel 2008; Michel, Bowen and Johnston 2009). In relationship marketing, *recovery* has been used to describe the efforts of firms to regain customers (*relationship recovery*), who have already left the relationship (e.g., Homburg and Schäfer 1999; Bruhn and Michalski 2001). Based on a profound review of the recovery literature, it gets evident that the existing definitions of recovery are related to different contexts, which has prevented the development of a general definition of recovery in contemporary recovery research till date (cf. table 2.2).

Author(s)	**Definition**	**Object**	**Objective**
Bell and Zemke (1987, p. 32)	"The word 'recovery' has been chosen carefully – it means 'to return to a normal state; to make whole again'"	Service failures	Customer satisfaction
Zemke and Bell (1990, p. 43)	"… thought-out, planned process of returning aggrieved customers to a state of satisfaction with the organization after a service or product has failed to live up to expectations"	Product failures Service failures	Customer satisfaction
Grönroos (1990, p. 7)	"… those activities in which a company engages to address a customer complaint regarding a perceived service failure"	Service failure	Failure handling
Johnston (1995, p. 213)	"… has been used as the expression to seek out and deal with service failures"	Service failures	Failure identification Failure handling
Johnston and Hewa (1997, p. 467)	"… the actions of a service provider to mitigate and/or repair the damage to a customer that results from the provider's failure to deliver a service as is designed"	Service failures	Failure mitigation Failure resolution

Hocutt, Chakraborty and Mowen (1997, p. 457)	"Service recovery consists of all the actions people may take to move a customer from a state of dissatisfaction to a state of satisfaction"	Product failures Service failures	Customer satisfaction
Miller, Craighead and Karwan (2000, p. 387)	"… involves those actions designed to resolve problems, alter negative attitudes of dissatisfied consumers and to ultimately retain these customers."	Product failures Service failures	Problem resolution Customer satisfaction Customer retention
Sparks and McColl-Kennedy (2001, p. 210)	"… is the process of dealing with a situation whereby a customer has experienced a failure in the firm's offering. Service recovery aims to return the customer to a state of satisfaction."	Product failures Service failures	Failure handling Customer satisfaction
Priluck and Lala (2009, p. 44)	"Recovery efforts are an attempt by the firm to keep the customer happy by suitably compensating the customer in case of a product failure"	Product failures	Customer satisfaction
Michel, Bowen and Johnston (2009, p. 267)	"... are the integrative actions a company takes to re-establish customer satisfaction and loyalty after a service failure (customer recovery), to ensure that failure incidents encourage learning and process improvement (process recovery) and to train and reward employees for this purpose (employee recovery)"	Service failures	Customer satisfaction Customer retention Process improvement Employee satisfaction
Fang, Luo and Jiang (2013, p. 1)	"... is a dynamic process of engaging in various marketing activities to recuperate consumer satisfaction after the service does not meet customer expectation or tolerance zone"	Service failure	Customer satisfaction

Table 2.2: Selected definitions of recovery from literature
Source: own illustration

With respect to the *object of recovery* the existing studies on recovery reflect different directions. In the initial studies on recovery, the term *recovery* has been related to the handling of product *and* service failures (Zemke 1994, p. 17; Zemke and Bell 1990, p. 43). More specifically, recovery has been defined as a "thought-out, planned process of returning aggrieved customers to a state of satisfaction with a firm after a service or product has failed to live up to expectations" (Zemke and Bell 1990, p. 43). In subsequent studies, however, scholars have predominantly related recovery to service failures leading to the establishment of the term "service recovery" in academic literature (e.g., Grönroos 1988; Johnston 1995; Smith and Bolton 1998), which currently dominates the academic landscape of recovery research. Nevertheless, several studies have related recovery to product failures, either *implicitly* (e.g. Boshoff 1999; Sparks and McColl-Kennedy 2001; Maxham and Netemeyer 2002a) or *explic-*

itly (e.g., Priluck and Lala 2009). A number of studies have related recovery to products and services likewise (e.g., Boshoff 1999; Sparks and McColl-Kennedy 2001; Maxham and Netemeyer 2002a). The majority of recovery research, however, failed to consider products and services as the *object of recovery* and solely focused on the recovery of services.

In terms of the *objective of recovery*, previous research conveys different goals related to recovery activities. The largest number of studies have related recovery to the restoration of *customer satisfaction* after failure situations (e.g., Boshoff 1999; Miller, Craighead and Karwan 2000; Sparks and McColl-Kennedy 2001). The term *recovery* has been related to the efforts of a seller firm "to return to a normal state; to make whole again" (Bell and Zemke 1987, p. 32) and refers to the restoration of customer satisfaction. Consequently, recovery has been defined to represent "a cornerstone of a customer satisfaction strategy" (Tax and Brown 1998, p. 87). Previous research has also related recovery to *problem resolution* in failure situations (e.g., Maxham 2001; Miller, Craighead and Karwan 2000; Simons and Kraus 2005). Accordingly, Zemke and Bell (1990) noted that "[s]olving problems is what recovery is about" (p. 43). Similarly, Smith and Karwan (2010) stated that "[t]he successful rectification of service failures is the ultimate goal of the recovery effort" (p. 4). The term *recovery* has been also associated with *customer retention* (e.g., Miller, Craighead and Karwan 2000). In particular, Andreassen (2001) noted "that the primary goal of the recovery strategy is to retain existing customers" (p. 47). The term recovery has been recently extended to consider process improvements based on failure information and employee satisfaction after failure situations as objectives of recovery for the seller firm (Michel, Bowen and Johnston 2009, p. 267).

The systematic efforts of the seller firm related to the development, implementation and improvement of recovery activities has been described by the term "recovery management" (Auerbach, Bednarczuk and Büttgen 1997, p. 78). In general, the term "management" has been defined as "the process of planning, organizing, leading, and controlling the efforts of organizational members and the use of other organizational resources in order to achieve stated organizational goals" (Stoner and Freeman 1989, p. 3). In the context of recovery, early research has noted that although firms cannot prevent problems, but they are able to develop mechanisms to recover from them (Hart, Heskett and Sasser 1990, p. 148). Therefore, Mattila (2001b) argued that "effective recovery needs to be carefully planned and managed" (p. 98) as the specific nature of recovery requires the systematic planning and management of recovery activities (La and Kadampully 2004, p. 392). Prior research has concluded that seller firms are required to engage in a systematic management of recovery activities to develop and maintain long-term customer relationships (Holloway and Beatty 2003, p. 94). Similarly, Kau and Loh (2006) noted that "[r]ecovery management is considered to have a significant impact on customers who experienced service failures" (p. 102). Nevertheless, Bhandari, Tsarenko and Polonsky (2007, p. 181) reasoned that the management of recovery activities is more complex

than the management of ordinary service encounters since failure situations may occur in all processes and are difficult to predict. Consequently, it is stated that the effective handling of failure situations requires the systematic management of recovery activities by seller firms. With respect to the increasing consolidation of products and services in business-to-business markets (Hutt and Speh 2004, p. 331) and based on the ambiguous definitions of recovery in previous research, the term *recovery management* is defined for the subsequent investigation as

> *a systematic approach for the development, implementation and controlling of activities by the seller firm to handle product or service failures in order to regain customer satisfaction and attain customer retention in the context of business-to-business markets.*

This definition constitutes the terminological foundation for the conceptual and empirical investigation on *recovery management in business-to-business markets*. To fundamentalize this definition, the term "recovery management" is further delineated from related terms in marketing literature.

2.1.2.2 Delineation of the term "recovery management"

To integrate the term "recovery management" in the nomological net of marketing and service research, it needs to be delineated from similar, but distinct concepts in academic research. In literature, the term *recovery management* has frequently been mixed (Davidow 2003, p. 227; DeWitt, Nguyen and Marshall 2008, p. 271) or used interchangeably (Johnston 2001, p. 61; Maxham and Netemeyer 2002a, p. 239) with the term "complaint management". For example, Davidow (2003) defined his conceptual model as a "complaint recovery framework" (p. 227) and did not clearly differentiate between the theoretical concepts of recovery management and complaint management. Since both terms represent distinct concepts (Smith, Bolton and Wagner 1999, p. 359), a conceptual delineation of the term recovery management from the term complaint management is required.

The term *complaint management* has been related to the organizational response of the seller firm to customer complaints (Fornell and Wernerfelt 1988, p. 289; Homburg and Fürst 2005, p. 96). More specifically, customer complaints denote the dissatisfaction of customers related to problems with the direct or indirect benefits of the exchange or the behavior of employees (Fürst 2005, p. 10) and is related to the expression of dissatisfaction by customers as reflected by the act of complaining. Accordingly, *complaint management* has been described as "a system, set up by the firm, that offers an opportunity for customers to have their grievances resolved" (Fornell and Wernerfelt 1988, p. 288). Based on prior definitions, *recovery management* may be differentiated from *complaint management* along the several dimensions.

First, *complaint management* has been argued to involve proactive measures aimed at the facilitation of complaints. However, it is, by definition, dependant on complaints from dissatisfied customers. Without a complaint by the customer, complaint management is unfeasible. Since only a limited number of dissatisfied customers tends to complain (McCollough, Berry and Yadav 2000, p. 133), a large number of dissatisfied, non-complaining customers may be neglected by complaint management. DeWitt and Brady (2003) stated that "[a]lthough the number of complaints in response to dissatisfaction varies, it is generally accepted that the incidence of complaints is much lower than the number of dissatisfying events" (p. 195). The majority of customers experiencing a failure situation were found to choose not to complain to the seller firm (Voorhees, Brady and Horowitz 2006, p. 514). In contrast, *recovery management* comprises proactive activities to identify problems with products or services, even in the absence of customer complaints (Smith, Bolton and Wagner 1999, p. 359). Therefore, recovery management allows seller firms to handle failure situations even when customers are incapable or reluctant to lodge a complaint to the seller firm or when seller firm employees have recognized the failure before the customer (Holloway, Wang and Beatty 2009, p. 386). Accordingly, recovery management differs from complaint management since it is related to dissatisfied, non-complaining (and complaining) customers.

Second, *complaint management* has been related to the handling of customer complaints (Fornell and Wernerfelt 1988, p. 289). Johnston (2001) noted that complaint management entails "the receipt, investigation, settlement and prevention of customer complaints" (p. 60), which reflects that the object of complaint management is the *customer complaint*. In contrast, *recovery management* is related to the handling of failure situations by the seller firm (Johnston 1995, p. 213). Michel (2001) explained that recovery "differs from complaint management in its focus on service failures and the company's immediate reaction to it" (p. 20). Therefore, recovery management may be differentiated from complaint management since it is related to the failure situation itself and its resolution rather than the customer complaint and the handling of complaints.

Third, *complaint management* is focused on customer complaints across several stages along the purchasing process (Hansen, Powers and Swan 1997, p. 14). In particular, complaint management involves the handling of customer complaints prior to, during and after the purchase (Fürst 2005, p. 10). In contrast, *recovery management* has been defined by previous literature to focus on the handling product or service failures towards customers in the post-purchase phase (Sparks and McColl-Kennedy 2001, p. 210). Consequently, recovery management may be distinguished from complaint management as it is related to the time period after the purchase rather than the time period before and during the purchase and, thus, is focused on current customers of the seller firm.

In conclusion, it is postulated that recovery management conceptually differs from complaint management along several dimensions. This conception is consistent with prior research, which has argued that *recovery management* represents a conceptual approach for the handling of failure situations, thus, differing from conventional approaches such as *complaint management* (Smith, Bolton and Wagner 1999, p. 359). Similarly, previous research has noted that recovery management need to be differentiated from concepts "focusing on just one facet of service failure and recovery – complaint management" (Parasuraman 2006, p. 591). Based on this delineation, the term *recovery management* is treated as an independent theoretical concept in the present investigation.

2.1.3 Characteristics of recovery management in business-to-business markets

In general, *recovery management* attains a critical role for the management of business relationships by restoring customer satisfaction and facilitating customer retention after product or service failure situations (Smith, Bolton and Wagner 1999, p. 356). Accordingly, Boshoff (1999) suggested that recovery represents "a minimum requirement for effective relationship marketing" (p. 248). Since relationship management is of fundamental importance in business markets (Sheth and Sharma 2006, p. 424), recovery management is assumed to significantly contribute to the development and maintenance of customer relationships in business-to-business markets. To investigate the nature of recovery management in business markets, its characteristics under these specific market conditions need to be understood. Based on the characteristics of *business-to-business markets* (cf. paragraph 2.1.1.2) and the definition of *recovery management* (cf. paragraph 2.1.2.1), the specific *characteristics of recovery management in business-to-business markets* have been conceptualized.

- *Derived demand*: Since the products or services of seller firms (directly or indirectly) enter into the products or services of their customers, they attain a significant role in the customer's offerings (Kleinaltenkamp 2000, p. 177). Therefore, product or services failures in business markets exert a significant impact on the quality of the products and services of the customer firm and even reflect upon indirect customers (the "customer's customer"). This condition is defined as the *transmission effect of failures.*
- *Volume of demand*: As the transaction volumes in business markets are larger than in consumer markets, failures by seller firms may have a substantial impact on the products or services of the customer firms. Due to the high degree of standardization of products (Hutt and Speh 2004, p. 23), failures are likely to spread quickly across a large number of products or services. With respect to the high level of individualization of services, failures tend to flow into the critical business processes of customer firms and, thus, diffuse across a large number of products or services, which is defined as the *multiplication effect of failures*.

- *Concentration of demand*: Since business markets are represented by a smaller number of customers with a higher degree of purchasing power compared to consumer markets (Brennan, Canning and McDowell 2007, p. 6), failures related to these customers have a substantial impact on the turnover and profitability situation of the seller firm. If the seller firm is unable to provide effective recovery, the respective customer firm may reduce future purchases or even terminate the business relationship with the seller firm, which is defined as the *concentration effect of failures*.
- *Individuality of demand:* As customers in business markets often purchase products or services that are specifically designed and produced according to their individual requirements (Narayandas 2005, p. 132), customers do not have the special knowledge required to handle specific failures. In these situations, the customer firm is dependent on the seller firm to resolve the failure situation since other firms are usually not able to resolve the failure due to a lack of competence. This condition is defined as the *individuality effect of failures.*
- *Multiplicity:* In business markets, purchasing decisions are influenced or made by several individuals from different functional areas (Wilson 2000, p. 786). Therefore, multiple individuals within the customer firm are, directly or indirectly, affected by product or service failure situations, which develop different expectations regarding the recovery activities of the seller firm, which is defined as the *collectivity effect of failures*.
- *Professionalism:* In general, customer firms in business markets are represented by professional, knowledgeable and skilled buyers in a procurement organization (Hutt and Speh 2004, p. 35). In failure situations, these professionals develop higher and more detailed expectations regarding the recovery activities of the seller firm based on their experiences from prior failure situations, which is defined as the *expectancy inflation effect of failures.*
- *Rationality:* As decision making in business markets is largely driven by rational processes, customer evaluations of recovery encounters are based on rational and objective criteria (Auh and Shih 2005, p. 79) rather than on emotional and subjective criteria. Therefore, customer firms are specifically focused the tangible procedures and outcomes related to the handling of the failure situation, which is defined as the *rationality effect of failures.*

On the basis of the aforementioned characteristics, it gets apparent that recovery management reflects specific characteristics in business-to-business markets, which fundamentally differ from the characteristics in business-to-consumer markets. As conceptualizations developed for consumer markets are likely to fail under business market conditions (Narayandas 2005, p. 131), a distinct conceptualization of recovery management is required to consider the specific characteristics prevailing in business-to-business markets. The present thesis is aimed at the development of a conceptualization of *recovery management for business-to-business markets.*

2.2 Review of recovery literature

On the basis of the definition of the fundamental terms, a profound review of the recovery literature is required to provide a detailed overview on the current state of recovery research. Due to the dissemination of recovery research across several research disciplines, a *classification of recovery research* is undertaken first (paragraph 2.2.1). Subsequently, the contemporary recovery literature is differentiated into *seller-related research on recovery* (paragraph 2.2.2) and *customer-related research on recovery* (paragraph 2.2.3). The *critical assessment of recovery literature* is conducted (paragraph 2.2.4) to derive the contributions of prior recovery research to the investigation.

2.2.1 Classification of recovery research

The concept of *recovery* has gained considerable attention across several academic disciplines including *service management* (e.g., Hart, Heskett and Sasser 1990), *sales management* (e.g., Gonzalez, Hoffman and Ingram 2005), *operations management* (e.g., Miller, Craighead and Karwan 2000; Craighead, Karwan and Miller 2004) and *relationship management* (e.g., Salo, Tähtinen and Ulkuniemi 2009). In service research, Parasuraman (2006) has proclaimed research on recovery as one of the "two important topics that fertile, wide-open research territories for marketing scientists to explore" (p. 590). Nevertheless, a consolidation and integration of recovery literature is still required to comprehend the nature of recovery management (Smith, Karwan and Markland 2009, p. 178). An interdisciplinary review of the existing recovery literature has been conducted where two major streams of research on recovery have been identified. As depicted in figure 2.2, research on recovery may be differentiated into the research streams *seller-related research on recovery* (paragraph 2.2.2) and *customer-related research on recovery* (paragraph 2.2.3).

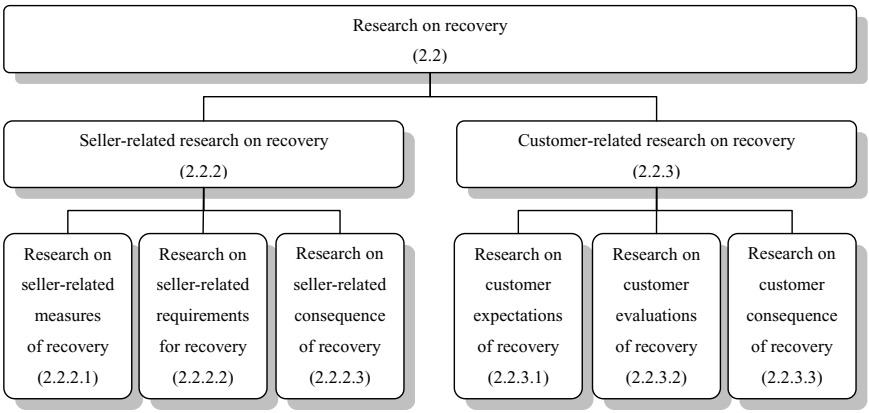


Figure 2.2: Major streams of recovery research
Source: own illustration

From a conceptual perspective, these two major research streams need to be differentiated because these independent streams reflect the distinct perspectives of the participants of recovery – from a *seller firm perspective* (i.e. seller-related research) and from a *customer firm perspective* (i.e. customer-related research). Accordingly, a separate discussion of the research contributions facilitates an understanding of the different perspectives on recovery taken by seller firms and customer firms.

2.2.2 Seller-related research on recovery

The *seller-related research on recovery* refers to the fundamental aspects of recovery from a seller-firm perspective. On the basis of an extensive literature review (cf. appendix 1), research on recovery from a seller firm perspective has been further differentiated into *seller-related measures of recovery* (paragraph 2.2.2.1), *seller-related requirements for recovery* (paragraph 2.2.2.2) and *seller-related consequences of recovery* (paragraph 2.2.2.3).

2.2.2.1 Research on seller-related measures of recovery

The *seller-related measures of recovery* are related to the recovery activities of seller firms with respect to failure situations. In the failure situation, seller firms have two options – either they choose to take actions to resolve the failure situation or simply disregard the failure situation. If they choose to take action, seller firms are required to determine a set of recovery activities to meet customer expectations of recovery (Bhandari, Tsarenko and Polonsky 2007, p. 181). Several recovery measures have been suggested by recovery literature to be conducted by seller firms. To structure the recovery measures along the recovery process, Miller, Craighead and Karwan (2000, p. 389) have developed the *recovery phase model*, which is separated into a *pre-recovery phase*, an *immediate recovery phase* and a *follow-up recovery phase* (cf. figure 2.3).

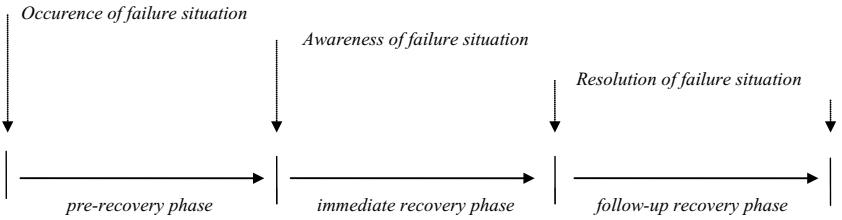


Figure 2.3: The recovery phase model

Source: adapted from Miller, Craighead and Karwan 2000, p. 388

a.) Pre-recovery phase

The *pre-recovery phase* begins with the occurrence of the failure situation and ends with the acknowledgement of the failure situation by the seller firm (Miller, Craighead and Karwan 2000, p. 389). The following recovery measures may be related to the *pre-recovery phase*.

The *rapport* of employees has been acknowledged as an important recovery measure in some studies (e.g., DeWitt and Brady 2003; Worsfold, Worsfold and Bradley 2007). More specifically, *rapport* has been defined as the presence of an enjoyable interaction and the development of a personal connection towards the customer (Gremler and Gwinner 2000, p. 92). Accordingly, rapport refers to the existence of a personal relationship between customers and seller firm employees, which is able to mitigate the negative effects arising from failure situations (DeWitt and Brady 2003, p. 194). Nevertheless, DeWitt and Brady (2003) noted that rapport has received limited attention in recovery research since "[r]apport was not previously considered a recovery mechanism, ostensibly because it is developed before a service failure occurs" (p. 202).

The *prevention* of failures has been considered as a vital element of recovery (e.g., Johnston 1995; Hart, Heskett and Sasser 1990). In particular, failure prevention has been suggested to comprise activities of the seller firm to "anticipate needs for recovery" by observing fields of activities where failures are likely to occur (Hart, Heskett and Sasser 1990, p. 152). The prevention of failures has been supposed to further include seller firms' attempts to reduce the probability that customers generate failure situations themselves (Johnston 1995, p. 219).

The *identification* of failures has been discussed as a fundamental measure of recovery by several studies (e.g., Miller, Craighead and Karwan 2000; Spreng, Harrell and Mackoy 1995). Hart, Heskett and Sasser (1990) suggested that recovery comprises activities related to the identification of failures where seller firms need to become "active problem finders" (p. 151). Failure identification has been suggested as an early warning system for seller firms by which failures may be identified and corrected before they create a major failure situation (Johnston and Hewa 1997, p. 471). Therefore, prior research has suggested including questions about failure incidents in customer surveys (Johnston and Michel 2008, p. 86). Nevertheless, an early identification of failures is only valuable when the seller firm is able to respond immediately (Shapiro and Nieman-Gonder 2006, p. 140). The identification of failures refers to the awareness of seller firms about customer expectations, which have not been met and therefore may result in complaints (Gonzalez et al. 2010, p. 223).

b.) Immediate recovery phase

The *immediate recovery phase* begins with the awareness of the failure situation and ends with the resolution of the failure situation by the seller firm (Miller, Craighead and Karwan

2000, p. 389). The following recovery measures may be related to the *immediate recovery phase*.

The *notification* of customers on failures has been considered as an important element of recovery by several studies in consumer markets (e.g., Johnston and Hewa 1997; Miller, Craighead and Karwan 2000) and business markets (e.g., Durvasula, Lysonski and Metha 2000; Lockshin and McDougall 1998). An early information of failures allows customers to take alternative steps instead of being confronted with a situation where there are no alternatives (Johnston and Hewa 1997, p. 471). Accordingly, seller firms should inform the customer immediately on failures to enable their customers to make alternative choices, which was found to improve the effectiveness of recovery (Lockshin and McDougall 1998, p. 437). Since customers may eventually be able to identify the failure situation themselves, employees should not attempt to conceal actual or potential failures from customers (Miller, Craighead and Karwan 2000, p. 398).

The *response* of the seller firm to failure situations has been also considered as important for successful recovery (e.g., Johnston 1995; Miller, Craighead and Karwan 2000; Smith, Bolton and Wagner 1999). Since failure situations may quickly escalate, seller firms have only a short time period to reinstate customer satisfaction (Hart, Heskett and Sasser 1990, p. 153). Accordingly, an immediate response to customers on the failure situation is required to effectively recover from the failure and prevent negative consequences (Boshoff 1999, p. 236). Therefore, the speed of response has been considered as an essential element of recovery (Wirtz and Mattila 2004, p. 162).

The *analysis* of failures by the seller firm has been considered as an important measure of recovery by several studies (e.g., Hoffman, Kelley and Rotalsky 1995; Gonzalez, Hoffman and Ingram 2005; Gonzalez et al. 2010). In general, failure analysis has been defined as the identification of the cause of the failure situation (Gonzalez, Hoffman and Ingram 2005, p. 58) and involves "recognizing the failure, identifying its source, evaluating its stability, and assessing its controllability" (Gonzalez et al. 2010, p. 226). The analysis of failures is critical to recognize common failure patterns and be able to reduce the reoccurrence of failures (Hoffman, Kelley and Rotalsky 1995, p. 49). Based on the analysis of the root cause of failures, the seller firm is able to take corrective actions against current failures and preventive actions against future failures to improve the internal processes of the seller firms (Michel, Bowen and Johnston 2009, pp. 257-258). Accordingly, an effective failure analysis was found to eventually result in lower levels of failures (Gonzalez, Hoffman and Ingram 2005, p. 62).

The *explanation* of failures by the seller firms has been suggested as another valuable recovery measure (e.g., Boshoff 1999; Grewal, Roggeveen and Tsiros 2008). In general, explana-

tion refers to the seller firms explicating the reasons for the failure situation to the customer in a brief and precise manner (Boshoff 1999, p. 240). Since customers generally expect an explanation of the cause of a failure situation (Andreassen 2001, p. 167), the effectiveness of recovery depends largely on whether the seller firm has provided an explanation on the failure and how satisfactory the explanation is perceived by the customer (Boshoff 2005, p. 414). An explanation needs to be presented in a credible way to be effective in mitigating the negative effects of failures (Mattila 2004, p. 144). An understanding of the reasons for failures based on a reasonable explanation was found to increase the effectiveness of recovery (Grewal, Roggeveen and Tsiros 2008, p. 433). Accordingly, the explanation of failures has been considered as a meaningful, but inexpensive measure of recovery, which reflects positively on customer evaluations (Bradley and Sparks 2012, p. 48).

The *feedback* by the seller firm on the failure situation has been acknowledged as critical for successful recovery (e.g., Andreassen 2000; Boshoff 1999; Johnston 1995). In particular, feedback has been related to the actions of the seller firm to provide regular information on the problem and the measures taken to resolve it (Boshoff 1999, p. 240). Andreassen (2000, p. 167) stated that it is important to provide regular feedback on the status of recovery to customers, especially when immediate recovery is infeasible. Furthermore, feedback has been related to the distribution of information for customers related to the prevention of future failures (Davidow 2003, p. 242).

The *resolution* of the failure situation by the seller firm has been considered as another important recovery measure (e.g., Hart, Heskett and Sasser 1990; Johnston and Fern 1999; Lockshin and McDougall 1998). Accordingly, Johnston (1995) suggested that the resolution of the failure situation constitutes the "key to recovery" (p. 221). Therefore, empirical findings reflect that the resolution of the problem determines the effectiveness of recovery, specifically in business markets (Lockshin and McDougall 1998, p. 434). The successful resolution of the failure situations has been referred to as the ultimate aim of recovery (Smith and Karwan 2010, p. 4).

The *compensation* of the failure situation by the seller firm has been conceived as a principle measure of recovery by several studies (e.g., Johnston and Fern 1999; Simons and Kraus 2005; Smith and Bolton 2002) and has been defined as the most frequently researched element of recovery (Davidow 2003, p. 236). In general, customers expect a certain type of compensation (i.e. discount, credit, replacement) after a failure has occurred to compensate for the loss experienced by the failure situation (Tax, Brown and Chandrashekaran 1998, p. 72). Under certain conditions, compensation may not necessarily be required for effective recovery (Johnston 1995, p. 223). Previous studies have identified that the effectiveness of compensation as a recovery measure tends to vary under different conditions (Smith, Bolton and

Wagner 1999, p. 358) and concluded that the appropriate level of compensation depends on the failure situation and the sacrifices experienced by the customer (Boshoff and Leong 1998, p. 43). Swanson and Kelley (2001, p. 60) suggested that in the case of extensive and complex recovery, it may be required to provide more profound compensation than in cases of short and simple recovery. Grewal, Roggeveen and Tsiros (2008, p. 425) noted that the effectiveness of compensation is also determined by the stability of the failure situation.

The *reliability* of seller firm employees in failure situations has been considered as a fundamental element of recovery (e.g., Boshoff 1999; Zemke and Bell 1990). In particular, reliability has been defined as the seller firm "keeping its promises or doing what it said it was going to do" (Boshoff 1999, p. 240). Prior research has confirmed that keeping promises made by the seller firm is essential for effective recovery (Zemke 1994, p. 18). In general, customers prefer to receive unpopular information rather than incorrect information on failures (Zemke and Bell 1990, p. 46).

The *empathy* of seller firm employees in failure situations has been suggested as a critical recovery measure (e.g., Bell and Zemke 1987; Hocutt and Stone 1998; Johnston 1995). In particular, empathy has been defined as "showing compassion for the person in pain" (Bell and Zemke 1987, p. 34). Therefore, empathy relates to the ability of service employees to connect with customers in failure situations and show concern for the needs of customers in the failure situation (McColl-Kennedy, Daus and Sparks 2003, p. 69). Empirical findings reflect that the majority of successful recoveries involve empathic behavior by service employees (Johnston 1995, p. 221) and represents a central determinant for effective recovery (Hocutt, Bowers and Donavan 2006, p. 204).

The *commitment* of seller firm employees in failure situations has been considered as important by recovery research (e.g., Hart, Heskett and Sasser 1990; Johnston 1995). In general, commitment has been defined as the "[s]taff's apparent commitment to their work, including the pride and satisfaction they apparently take in their job, their diligence and thoroughness" (Johnston 1995, p. 221). Hart, Heskett and Sasser (1990, p. 151) suggested that every failure situation provides an opportunity for the seller firm to renew its commitment to customer service, also in cases where the seller firm is not at fault.

c.) The follow-up recovery phase

The *follow-up recovery phase* begins after the failure situation has been resolved and is largely dependent on the success of the immediate recovery phase (Miller, Craighead and Karwan 2000, p. 389). The following recovery measures may be related to the follow-up recovery phase.

The *apology* by the seller firm in failure situations has been acknowledged as important for effective recovery by several studies (e.g., Bell and Zemke 1987; Kelley, Hoffman and Davis 1993; Zemke and Bell 1990). More specifically, apology refers to "a service firm or an employee providing an apology to the customer for any inconvenience incurred because of a service failure" (Boshoff 1999, p. 239). Empirical findings reflect that the majority of customers expect an apology after a failure situation (Johnston and Fern 1999, p. 77). If seller firms have chosen to provide an apology to customers, these apologies may be delivered in person or by telephone (Boshoff and Leong 1998, p. 40). Nevertheless, the relevance of apology as an effective means of recovery has been questioned (Johnston 1995, p. 221). Accordingly, empirical findings reflect that apologies are ineffective as discrete recovery measures, but are able to magnify the effects of other recovery measures (Miller, Craighead and Karwan 2000, p. 397).

The *tracking* of failures by the seller firm has been suggested as important for effective recovery (e.g., Bell and Zemke 1987; DeWitt and Brady 2003; Gonzalez, Hoffman and Ingram 2005). The monitoring of failures is essential for seller firms to identify areas where failures often arise and are likely to reoccur (Hart, Heskett and Sasser 1990, p. 152). Accordingly, the tracking of failures may involve follow-up calls to customers to ascertain if the failure has been satisfactorily resolved by the seller firm (Johnston and Fern 1999, p. 71). The tracking of failure costs allows the calculation of costs associated with failure and recovery (Tax and Brown 1998, p. 85). Therefore, occurring failures should be traced and compared to prior failures to evaluate the improvements achieved and detect necessary fields for improvement (Gonzalez, Hoffman and Ingram 2005, p. 62). Based on the systematic tracking and reporting of failures, the effectiveness of recovery activities may be evaluated by seller firms at the employee and group level (Gonzalez et al. 2010, p. 227).

The *improvement* of products, services and processes by the seller firm after failure situations has been suggested by several studies (e.g., Brown, Cowles and Tuten 1996; Johnston and Michel 2008). In general, failure situations provide valuable information to seller firms on inefficiencies in their service processes and constitute a knowledge base for the redesign and optimization of service delivery systems (Brown, Cowles and Tuten 1996, p. 36). In failure situations, service employees are required to collect information about failure and recovery to enable their management to reshape the service delivery system. Recovery enables the seller firm to learn how to improve the effectiveness of its operations in failure and non-failure encounters (La and Kadampully 2004, p. 394). Johnston and Michel (2008, p. 85) suggested using failure-related information to identify the cause and prevent the occurrence of future failures based on the improvement of the processes of the seller firm. Nevertheless, Michel, Bowen and Johnston (2009, p. 265) argued that only a small share of failure information is actually collected, analyzed and communicated within the seller firm. Prior research has pro-

posed to communicate these process improvements to customers to facilitate an effective recovery (Van Vaerenbergh, Larivière and Vermeir 2012, p. 262).

Beyond these individual measures of recovery, two fundamental perspectives on recovery have evolved in recovery literature – *proactive recovery* and *reactive recovery*. Initially, conceptualizations of recovery were largely based on a *reactive perspective*, in which recovery activities of the seller firm are initiated after a failure has been identified by customers (e.g., Kelley and Davis 1994; Miller, Craighead and Karwan 2000). DeWitt and Brady (2003) noted that "[m]ost recommended recovery strategies are initiated only after the dissatisfying event has occurred" (p. 193). However, the reliance on reactive recovery measures deems critical since these measures may take effect too late to diminish the negative effects resulting from the failure situation. DeWitt and Brady (2003) argued that "waiting to address service failure after it occurs is too late to mitigate damage. The poor recovery rate in practice and the improbability that dissatisfied customers will complain supports this perspective" (p. 203). Recovery research has acknowledged that a solely reactive perspective on recovery may be insufficient. Hence, several studies have adopted a *proactive perspective*, in which recovery activities of the seller firm are initiated before a failure has been identified by customers (e.g., Andreassen 2000; Johnston 1995, 2001) to overcome the limitations of the reactive perspective. According to Smith, Bolton and Wagner (1999, p. 359), the proactive recovery perspective aims to identify problems with products or services even in the absence of customer complaints. La and Kandampully (2004) suggested that it may be "more beneficial in the long-term for firms to adopt a proactive strategy to 'pre-empt' the failures" (p. 395). Accordingly, seller firms should employ a multi-layered recovery strategy, which comprises proactive as well as reactive recovery measures to improve customer evaluations of recovery (Worsfold, Worsfold and Bradley 2007, p. 2515). Despite its potential contributions, DeJong and DeRuyter (2004, p. 458) acknowledged that limited knowledge on proactive recovery is existent in literature.

2.2.2.2 Research on seller-related requirements for recovery

The *seller-related requirements for recovery* refer to the organizational requirements, which are necessary for the development and execution of recovery measures by seller firms. More specifically, the organizational requirements for recovery have been differentiated into the *human resource dimension,* the *system resource dimension* and the *organizational resource dimension*.

a.) The human resource dimension

The *human resource dimension* relates to the interpersonal requirements for seller firm employees, who are responsible for the recovery activities of the seller firm. Several studies have acknowledged the fundamental importance of service employees for the execution of effective

recovery (e.g., Hoffman, Kelley and Rotalsky 1995; Tax and Brown 1998). In particular, prior research reflects that the *hiring of employees*, *training of employees* and *empowerment of employees* determines the overall effectiveness of recovery activities by seller firms (Hutt and Speh 2004, p. 332).

The *hiring of employees* responsible for failure handling significantly influences the effectiveness of recovery (Zemke and Bell 1990, p. 46). Since employees need to be able to handle distressed customers, specific requirements for the selection process of recovery employees should be defined and assessed during the recruitment process based on assessment centers or simulation techniques (Tax and Brown 1998, p. 82). As employees become an integral element of the service delivery, the selection criteria in the recruitment process should focus on the service orientation of the applicants (Durvasula, Lysonski and Metha 2000, p. 449). Due to the cross-functional requirements of recovery, employees need strong functional skills combined with the ability to work across multiple functional areas (Michel, Bowen and Johnston 2009, p. 267).

The *training of employees* for failure handling has been strongly emphasized by recovery literature (e.g., Smith, Karwan and Markland 2009; Wirtz and Mattila 2004). In particular, effective recovery requires that service employees have the necessary skills to handle dissatisfied customers in failure situations (Gonzalez, Hoffman and Ingram 2005, p. 58). More specifically, employees require training in different areas such as training on recovery systems, customer interactions, products or services and potential recovery situations. The *training on recovery systems* involves the instruction of seller firm employees to the organizational structure of the seller firm and the conjunction of internal processes as these become part of the recovery system (Hart, Heskett and Sasser 1990, p. 154). Accordingly, La and Kandampully (2004) noted that "effective service recovery depends on the degree to which service workers understand the service system in its entirety, as well as the individual processes within that system" (p. 393). The *training on customer interactions* comprises the teaching of skills to adequately respond to customers in failure situations. The employee training should be related to the interaction with customers during recovery to qualify employees to effectively recover from failure situations (Wirtz and Mattila 2004, p. 162). More specifically, DeWitt, Nguyen and Marshall (2008) suggested that the training of service employees should include lessons on "conflict resolution, empathetic listening skills, and rapport" (p. 278). The *training on products and services* refers to the development of knowledge on the products and services provided by the seller firm to ensure an effective recovery encounter. As a result, frontline employees need to have profound knowledge of the products or services offered by the seller firm to understand and effectively support customers during the recovery (Boshoff and Allen 2000, p. 68). The *training on recovery situations* relates to the development of knowledge on potential failure situations that customers may be exposed to and the formulation of suitable

solutions to these failures. Therefore, Michel, Bowen and Johnston (2009, p. 265) suggested that training on recovery is required for all seller firm employees, not only frontline employees.

The *empowerment of employees* for failure handling has been acknowledged to facilitate the effectiveness of recovery (e.g., Boshoff and Leong 1998; DeJong and DeRuyter 2004; Miller, Craighead and Karwan 2000). In particular, Hart, Heskett and Sasser (1990) describe empowerment as providing employees with "the authority, responsibility, and incentive to recognize, care about, and attend to customer needs" (p. 154). Recovery encounters often fail because service employees were not empowered (Bowen and Lawler 1995, p. 33). An effective recovery requires the empowerment of service employees since these have the closest contact to the customer to anticipate their needs (Boshoff 1997, p. 126). The empowerment of employees is important for recovery activities since pre-defined procedures tend to fail in unpredictable failure situations (Boshoff and Leong 1998, p. 28). Nevertheless, Tax and Brown (1998, p. 82) argued that the empowerment of employees requires clear boundaries to avoid inefficiencies in the service delivery system. Prior research findings convey that empowerment positively reflects upon recovery performance when it has become part of the seller firm's organizational culture (Boshoff and Allen 2000, p. 82). Recent empirical findings confirm that the empowerment of service employees enhances the effectiveness of the recovery system (Smith, Karwan and Markland 2009, p. 267).

The *reward of employees* for failure handling has been stressed by several studies (e.g., Bitner, Booms and Tetreault 1990; Hart, Heskett and Sasser 1990; Boshoff and Allen 2000). In general, seller firms are required to adequately reward employees that recognize problems and reinforce problem solving (Hart, Heskett and Sasser 1990, p. 154). The reward structure of the seller firm is critical since it facilitates the motivation of service employees executing the recovery activities. When service employees are not sufficiently rewarded for their recovery efforts, unmotivated employees and dissatisfied customers are the consequence (Bitner, Booms and Tetreault 1990, p. 71). Seller firms striving to provide excellent recovery to their customers are required to adequately motivate and reward their service employees. Boshoff and Allen (2000) noted that "[d]ealing with angry customers is a thankless task and employees who perform the task well should be recognised and rewarded" (p. 66). The rewards to employees for effective recovery may be given at the individual employee level or at the collective group level (Michel, Bowen and Johnston 2009, p. 267).

Since service employees are treated synonymously with the seller firm, their recovery efforts are often perceived by customers as the recovery performance of the seller firm (Smith, Fox and Ramirez 2010, p. 443). Hence, seller firms need to focus on the selection, training, empowerment and compensation of service employees to achieve recovery excellence and re-

covery management should be aligned with *human resource management* (Michel, Bowen and Johnston 2009, p. 260).

b.) The system resource dimension

The *system resource dimension* relates to the organizational requirements for the recovery system to facilitate effective recovery by the seller firm. The execution of effective recovery is largely determined by the organizational processes of the seller firm (Miller, Craighead and Karwan 2000, p. 388). To ensure effective recovery, seller firms require an adequate organizational infrastructure (Davidow 2003, p. 235). According to literature, seller firms need to construct dependable *recovery support systems*, which assist service employees in performing effective recovery. Zemke and Bell (1990) noted that effective recovery "is achieved only through a set of systems, operations and actions that are painstakingly planned, constantly refined and carefully executed" (p. 46). More recently, the development of a *recovery system* has been discussed in recovery literature (e.g., Smith, Karwan and Markland 2009; Smith and Karwan 2010; Smith, Fox and Ramirez 2010). A *recovery system* has been referred to as "the critical, complementary structural dimensions" of an organizational framework for recovery (Smith, Karwan and Markland 2009, p. 167). In recent literature, the differences between seller firms in terms of the maturity level of their recovery systems have been identified. In particular, Smith and Karwan (2010, p. 9) differentiate between three distinct groups on a maturity continuum of recovery systems – *recoverers*, *followers* and *laggards*. While *recoverers* were represented by organizations that focus on all system dimensions, thus, employing the widest range of recovery practices, *followers* were related to organizations that allocate a certain amount of resources to recovery efforts, but in a less systematic way than recoverers. In contrast, *laggards* were represented by organizations, which place limited emphasis on recovery systems. Nevertheless, Smith, Karwan and Markland (2009) noted that the comprehension of the organizational perspective on recovery systems is not profoundly established in literature and that "research in this area has not clearly defined the dimensions of effective recovery" (p. 166).

c.) The organizational resource dimension

The *organizational resource dimension* relates to the assets of the seller firm allocated to recovery activities. In general, seller firms need to provide a suitable organizational infrastructure, which facilitates the systematic identification and management of failure situations (DeJong and DeRuyter 2004, p. 447). Based on the existing literature, the organizational resource dimension may be further separated into the *organizational planning*, *organizational learning* and *organizational culture*.

The *organizational planning* of recovery has been acknowledged as essential for effective recovery since the specific nature of recovery requires a systematic planning of recovery activities (La and Kadampully 2004, p. 399). However, the organizational planning for recovery actions has been considered as more challenging and complex compared to regular service activities (Bhandari, Tsarenko and Polonsky 2007, p. 181). In particular, Bhandari, Tsarenko and Polonsky (2007, p. 182) suggested the development of scenarios related to potential failure situations and adequate recovery measures supported by service blueprints. Robinson, Neeley and Williamson (2011, p. 91) identified that seller firm employees require access to customer and failure data from corporate information systems to effectively plan and execute recovery encounters.

The *organizational learning* from recovery is of fundamental importance to improve the effectiveness of recovery efforts. To facilitate organizational learning, Tax and Brown (1998, p. 84) suggested that information on failure incidents should be made available to service employees, who should be cultivated to develop an attitude that learning from failures is essential. La and Kadampully (2004) argued that "while the capability to learn from service failures has the potential to contribute to the innovation process, this potential can be realized only if the learning is viewed as part of organizational learning, rather than solely as an operational issue" (p. 398). Consequently, an effective recovery system is dependent on organizational learning processes, which may be derived from best practice solutions of related industries (Smith and Karwan 2010, p. 3).

The *organizational culture* of recovery has been perceived as important since it influences the capability of seller firms to provide effective recovery. Based on anecdotic evidence, the recovery culture of the seller firm reflects the general orientation of an organization towards their customers' expectations (Bell and Zemke 1987, p. 35). More specifically, Zemke and Bell (1990) explained that "solving customer problems androitly is more than a strategy or a set of skills. It is a way of life. It is part of the culture of organizations that do it well" (p. 48). The development of a corporate recovery culture is important for the motivation of employees to provide superior recovery to customers. Similarly, Boshoff (1997, p. 117) noted that recovery become part of the seller firm's strategy to deliver better service and additional value to customers. Boshoff and Allen (2000, p. 80) further argued that the management level is required to convey strong commitment to service excellence and communicate their vision to its frontline employees. In particular, the management level of the seller firm should nurture an internal recovery culture, which provides the required systems, tools and mindset to execute effective recovery (Smith, Fox and Ramirez 2010, p. 448). The recovery culture needs to reinforce the relevance of recovery and reflect that the restoration of customer satisfaction represents an important goal (Gonzalez et al. 2010, p. 224).

2.2.2.3 Research on seller-related consequences of recovery

The *seller-related consequences of recovery* refer to the outcomes of recovery activities from a seller firm perspective. Based on contemporary recovery literature, only few studies have focused on the consequences of recovery activities from the perspective of the seller firm (Parasuraman 2006, p. 590). From a conceptual perspective, these consequences may be differentiated into the *operational consequences*, the *organizational consequences* and the *financial consequences of recovery*.

The *operational consequences* of recovery relate to the effects of recovery activities on the operational processes of the seller firm. In general, a conflict exists between the productivity goals of the seller firm and the recovery expectations of the customer. More specifically, DeJong and DeRuyter (2004, p. 464) explained that highly customized recovery activities require substantial efforts to resolve the failure situation to the satisfaction of the customer, which usually decreases the productivity of service employees compared to standardized recovery. Therefore, seller firms need to carefully weigh customer-based performance measures against seller-based performance measures (Singh 2000, p. 31) to determine the optimal allocation of recovery resources. Seller firms are required to decide on the optimal balance between satisfaction of the customer and productivity of the service employees depending on the specific recovery situation.

The *organizational consequences* of recovery refer to the effects of recovery activities on the organization of the seller firm. More specifically, prior research has identified that effective recovery positively reflects upon seller firm employees. Previous studies reflect that effective recovery improves *employee satisfaction* (e.g., Hocutt and Stone 1998) and *employee loyalty* (e.g., Tax and Brown 1998). Nevertheless, employee satisfaction requires that service employees are, at least to a certain degree, empowered for failure handling (Tax and Brown 1998, p. 86). Accordingly, empirical findings reflect that the empowerment of employees positively influences recovery attitudes and recovery performance as well as positively impacts job satisfaction (Hocutt and Stone 1998, p. 128). The provision of employee training was identified to further enhance job satisfaction (Hocutt and Stone 1998, p. 128). The training of employees reduces role conflict and ambiguity among service employees based on the definition of preferred recovery tactics and resources (Gonzalez, Hoffman and Ingram 2005, p. 59).

The *financial consequences* of recovery are related to the effects of recovery activities on the financial performance of the seller firm. Several studies have suggested that effective recovery reflects positively on the financial situation of the seller firm (Hoffman and Kelley 2000; McCollough, Berry and Yadav 2000; Smith and Bolton 1998). In general, research has suggested that higher profits result from customers, who have experienced a satisfactory recovery on the basis of repetitive and extended purchase behavior (Andreassen 2001, p. 47) or reduced

recovery costs (Priluck and Lala 2009, p. 42). Besides the potential benefits of recovery, substantial costs may be involved in the development and implementation of recovery activities (Simons and Kraus 2005, p. 287). Parasuraman (2006, p. 591) noted that effective recovery requires substantial investments into recovery systems and resources, which need to be matched with the corresponding benefits. More recently, Johnston and Michel (2008, p. 94) empirically identified that recovery exerts a substantial impact on the financial performance of the seller firm. Nevertheless, scholars have acknowledged that the cost effectiveness of recovery has not been well understood by recovery research (Miller, Craighead and Karwan 2000, p. 398).

2.2.3 Customer-related research on recovery

The second research stream on *customer-related research on recovery* comprises investigations on recovery from a customer perspective. Based on the current state of recovery research (cf. appendix 2), customer-related research on recovery may be differentiated into *research on customer-related expectations of recovery* (paragraph 2.2.3.1), *research on customer-related evaluations of recovery* (paragraph 2.2.3.2) and *research on customer-related consequences of recovery* (paragraph 2.2.3.3).

2.2.3.1 Research on customer-related expectations of recovery

The *research on customer expectations of recovery* refers to the expectations regarding the recovery activities of the seller firm, which customers tend to develop in failure situations. As argued by Bell and Zemke (1987), all customers "have recovery expectations that they want organizations to meet" (p. 32). In general, *recovery expectations* have been defined as "customer predictions that of how effectively the service provider will resolve service failures when they arise" (Kelley and Davis 1994, p. 53). Therefore, customers develop explicit expectations regarding the recovery efforts of the seller firm based on prior, positive and negative, experiences with the seller firm (Boshoff 1999, p. 237). Consequently, seller firms need to understand the recovery expectations of their customers to provide effective recovery (Bhandari, Tsarenko and Polonsky 2007, p. 179).

The comparison of perceived recovery performance with prior expectations regarding recovery will determine the degree of customer satisfaction with the recovery encounter (Boshoff 1999, p. 237). According to the *confirmation/disconfirmation paradigm*, the comparison process of performance versus expectations results in either *positive disconfirmation*, *confirmation* or *negative disconfirmation* of expectations (Oliver 1980, p. 461), which may be also applied to recovery situations (Swanson and Kelley 2001, p. 53). More specifically, *positive disconfirmation* arises when the seller firm provides recovery performance, which is superior to customer expectations of recovery. Bell and Zemke (1987) noted that "[t]he most memorable recoveries are those in which that demonstration far exceeds customer expectations" (p.

35). To achieve positive disconfirmation, seller firms need to exceed the expectations of their individual customers regarding recovery (Holloway, Wang and Beatty 2009, p. 392). In contrast, *negative disconfirmation* occurs when the seller firm provides recovery performance below prior customer expectations (Swanson and Kelley 2001, p. 53). A product or service failure followed by a failed recovery has been referred to as a *double-deviation scenario* where customers experience a repeated, negative disconfirmation of expectations (Bitner, Booms and Tetreault 1990, p. 80). Due to the elevated expectations after a failure situation, customers may in fact be more dissatisfied with an inadequate recovery than with the original failure incident (Smith, Bolton and Wagner 1999, p. 356). Moreover, *confirmation* is attained when recovery performance exactly matches with previous recovery expectations (Swanson and Kelley 2001, p. 53). Therefore, prior research has suggested that recovery activities of seller firms need to meet or exceed customer expectations of recovery (La and Kadampully 2004, p. 393). In the case of repeated failures, customers were found to develop higher expectations regarding the recovery of the seller firm for the second failure situation compared to the first failure situation (Maxham and Netemeyer 2002a, p. 59). In particular, empirical findings reflect that recovery expectations increased at a higher degree for customers experiencing a satisfactory recovery encounter (Maxham and Netemeyer 2002a, p. 67). Accordingly, Bhandari, Tsarenko and Polonsky (2007, p. 180) found empirical evidence that customers generally learn from prior recovery experiences and change their expectations regarding future recovery encounters based on these experiences. Therefore, recovery expectations of customers tend to be dynamic and may change significantly over time.

To effectively manage their recovery activities, seller firms are required to know their recovery performance in relation to the expectations of their customers (Boshoff 1999, p. 237). Since recovery expectations represent a psychological foundation for the evaluation of recovery activities by the customer, seller firms need to understand these expectations and adapt their recovery activities accordingly (Holloway, Wang and Beatty 2009, p. 392). Consequently, a profound understanding of the recovery expectations of customers is essential for the development of positive customer evaluations of recovery since these are determined by the degree to which the recovery efforts have actually met customer expectations (Bhandari, Tsarenko and Polonsky 2007, p. 175).

2.2.3.2 Research on customer-related evaluations of recovery

The *research on customer-related evaluations of recovery* refers to research, which has investigated the processes by which customers assess recovery activities of the seller firm. Due to the complex processes involved in customer evaluations of recovery (Worsfold, Worsfold and Bradley 2007, p. 2515), a profound understanding of these processes is required to develop effective recovery strategies. The following customer evaluations have been discussed in contemporary recovery research.

The *justice perceptions of recovery* refer to the customer cognition of fairness related to the recovery efforts of the seller firm. The justice considerations attain an important role in customer evaluations of recovery (DeRuyter and Wetzels 2000, p. 94) and negligence of justice perceptions in the evaluation processes of customers limit the explanatory power of findings (Smith, Bolton and Wagner 1999, p. 369). According to equity theory (cf. paragraph 3.1), customer perceptions of justice have been conceptualized to comprise the dimensions *procedural justice, distributive justice* and *interactional justice* (e.g., Tax and Brown 1998; Maxham 2001; McCollough, Berry and Yadav 2000). In particular, *procedural justice* has been defined as the "perceived fairness of the policies, procedures, and criteria used by decision makers in arriving at the outcome of a dispute or negotiation" (Blodgett, Hill and Tax 1997, p. 189). Furthermore, *distributive justice* has been defined as "the extent to which customers feel that they have been treated fairly with respect to the *final* recovery outcome [italics by original author]" (Maxham and Netemeyer 2002b, p. 240). Hence, McColl-Kennedy and Sparks (2003, p. 253) noted that distributive justice is related to the outcome that a customer receives from the recovery process based on a comparison process with other customers. Moreover, *interactional justice* has been defined as "the extent to which customers feel they have been treated fairly regarding their personal interaction (…) throughout the recovery process" (Maxham and Netemeyer 2002b, p. 241). Therefore, interactional justice involves the way that the failure situation is handled by the seller firm and includes the interactions that have taken place between the seller and the customer (McColl-Kennedy and Sparks 2003, p. 253). More recently, *informational justice* has been suggested as another justice dimension, which is related to the fairness of information exchanged between exchange partners (Colquitt 2001, p. 390). In general, prior research argued that the different justice dimensions represent related constructs, which are linked to one major construct *justice* (McCollough, Berry and Yadav 2000, p. 125). Several studies have conceptualized customer perceptions of justice as jointly based on all three justice perceptions (Wirtz and Mattila 2004, p. 151). Accordingly, DeWitt, Nguyen and Marshall (2008, p. 270) argued that the justice dimensions represent independent constructs, which mutually establish the overall justice perception of the customer.

The *emotional response* to recovery has been considered as a fundamental element of customer evaluations of recovery by several studies (e.g., DeWitt, Nguyen and Marshall 2008; McColl-Kennedy and Sparks 2003; Smith and Bolton 2002). In general, *emotions* have been defined as "a mental state of readiness that arises from cognitive appraisals of events or thoughts" (Bagozzi, Gopinath and Nyer 1999, p. 184). Beyond the cognition-based evaluations by customers, emotions have been acknowledged as a fundamental mechanism for the evaluation of specific incidents. Oliver (1997) noted that emotion "coexists alongside various cognitive judgments in producing satisfaction" (p. 319). In fact, Smith and Bolton (2002) were the first researchers to empirically investigate the role of emotions in customer evalua-

tions of recovery. In particular, Smith and Bolton (2002, p. 5) identified that customers develop strong emotional reactions in failure situations, which determine the continuation of the relationship with the seller firm. Smith and Bolton (2002, p. 18) further disclosed that emotions exert a stronger influence on transactional than cumulative satisfaction judgments. Therefore, emotions need to be considered in investigations on recovery to understand the evaluation processes of customers based on the development of positive emotions and the reduction of negative emotions (DeWitt, Nguyen and Marshall 2008, p. 278). In general, customers enter the recovery encounter with negative emotions caused by the failure situation (Gustafsson 2009, p. 1221). Depending on the effectiveness of the recovery, these negative emotions are either diminished or intensified, which directly influences the customer evaluations of the recovery encounter. A recent study suggested that negative emotions may be further differentiated into the dimensions *self*, *others* and *situations*, which should be considered in the selection of recovery measures (Svari et al. 2011, p. 328). More recently, Fang, Luo and Jiang (2013, p. 2) identified that customers are more emotionally involved in recovery encounters than in usual service encounters.

The *satisfaction with recovery* attains a central role in customer evaluations of recovery since several studies have stressed the importance of satisfaction as a key variable for understanding customer evaluations of recovery (e.g., Boshoff 1999; Smith, Bolton and Wagner 1999; Smith and Bolton 2002). In general, customers develop transactional judgments of their experience with the recovery of the seller firm after a specific failure situation (Smith and Bolton 1998, p. 68). More specifically, *recovery satisfaction* has been defined as "the degree to which a customer is satisfied with a service firm's transaction-specific service recovery effort following a service failure" (Boshoff 1999, p. 237). As such, recovery satisfaction is focused on the activities of the seller firm during the recovery and, thus, does not consider pre-failure perceptions of satisfaction (Boshoff and Leong 1998, p. 40). Therefore, recovery satisfaction has been considered as a transactional measure for the evaluation of post-recovery satisfaction (McCollough, Berry and Yadav 2000, p. 122). Based on the *confirmation/disconfirmation paradigm*, recovery satisfaction has been modeled as a comparison process of prior recovery expectations and perceived recovery performance (Hess, Ganesan and Klein 2003, p. 128). This comparison process results in either *positive disconfirmation*, *confirmation* or *negative disconfirmation* of recovery expectations. *Positive disconfirmation* is established when perceived recovery performance exceeds prior recovery expectations, which results in customer satisfaction with recovery. In contrast, *negative disconfirmation* arises when perceived recovery performance falls below customer expectations, which leads to recovery dissatisfaction of the customer. The *confirmation of expectations* emerges when perceived recovery performance exactly matches with recovery expectations, which yields a moderate level of customer satisfaction with recovery. Overall, empirical findings reflect that negative effects of recovery performance below expectations on recovery satisfaction are stronger than positive effects of

recovery performance above expectations (Hess, Ganesan and Klein 2003, p. 133). For the measurement of recovery satisfaction, a multiple-item scale, referred to as the RECOVSAT scale, has been developed (Boshoff 1999, 2005). While the initial RECOVSAT scale measured satisfaction with service recovery based on a 17-item instrument consisting of the dimensions *communication, empowerment, feedback, atonement, explanation* and *tangibles* (Boshoff 1999, p. 244), the revised RECOVSAT scale was condensed to a 13-item instrument consisting of the same dimensions reflecting superior reliability and validity properties (Boshoff 2005, p. 417). Overall, findings from prior research reflect that recovery efforts need to exceed customer expectations of recovery to generate positive customer evaluations of recovery (Holloway, Wang and Beatty 2009, p. 392). Smith, Bolton and Wagner (1999, p. 366) reflected that *disconfirmation of expectations* and *justice perceptions* act a complementary antecedents of recovery satisfaction, whereas disconfirmation exerts a smaller impact on recovery satisfaction than justice perceptions. Nevertheless, disconfirmation and justice perceptions are independent constructs and, thus, attain different roles in customer evaluation of recovery (DeRuyter and Wetzels 2000, p. 92). Despite the importance of recovery satisfaction as a central element for customer evaluations of recovery encounters, it seems inadequate to capture the long-term effects on customer relationships (Weun, Beatty and Jones 2004, p. 136). Research on the customer-related consequences of recovery has recently received increased attention.

2.2.3.3 Research on customer-related consequences of recovery

The *research on customer-related consequences* relates to investigations on the outcomes of the recovery activities from a customer perspective. These consequences refer to the attitudinal and behavioral outcomes developed by customers in response to the recovery activities of the seller firm. The following consequences have been discussed most frequently in recovery literature.

The *satisfaction of customers* has been defined as "the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, included levels of under- or overfulfillment" (Oliver 1997, p. 13). Accordingly, customer satisfaction represents a general evaluation of the product or service experience provided by the seller firm from a customer perspective. Maxham (2001) noted that "satisfaction is similar to attitude, as it represents the sum of several attribute satisfaction judgments" (p. 12). Several studies have found empirical evidence on the positive effect of recovery on customer satisfaction (e.g., Hess, Ganesan and Klein 2003; Lockshin and McDougall 1998; Maxham and Netemeyer 2002b). In particular, empirical findings reflect that recovery satisfaction exerts a positive impact on customer satisfaction (Smith and Bolton 1998, p. 73). With respect to the effect of recovery on customer satisfaction, the *recovery paradox* has been extensively discussed in recovery literature

(Hocutt, Bowers and Donavan 2006, p. 205). The recovery paradox describes the phenomenon that customers, who have been exposed to a failure situation and received superior recovery, reflect higher levels of satisfaction than customers, who have not been exposed to any failure situation (McCollough and Bharadwaj 1992, p. 119). In general, contemporary literature on recovery reflects ambivalent findings on the existence of the recovery paradox. Several studies have *confirmed* the existence of the recovery paradox (e.g., Maxham and Netemeyer 2002a; Smith and Bolton 1998). For example, Smith and Bolton (1998, p. 75) reflect that customer satisfaction and repurchase intentions were higher when customers experienced high levels of satisfaction with recovery. In multiple failure situations, however, customer evaluations were lower despite highly satisfactory recovery (Maxham and Netemeyer 2002a, p. 67). In contrast, several studies *disconfirmed* the existence of the recovery paradox (e.g., Andreassen 2001; Maxham 2001; McCollough, Berry and Yadav 2000). In particular, McCollough, Berry and Yadav (2000, p. 131) found that satisfaction after satisfactory recovery was not higher compared to situations where no failure had occurred. Consequently, empirical findings on the recovery paradox have been considered as inconsistent (Parasuraman 2006, p. 591).

The *commitment of customers* to the seller firm has been considered by a limited number of studies on recovery (e.g., DeWitt, Nguyen and Marshall 2008; Kau and Loh 2006). In the context of recovery, *commitment* has been defined as a "cognitive and attitudinal process that is based primarily on an enduring desire to maintain a relationship between partners" (DeWitt, Nguyen and Marshall 2008, p. 272). Based on *equity theory* (cf. paragraph 3.1), Kelley and Davis (1994, p. 59) found that effective recovery results in higher commitment of the customer to the relationship with the seller firm. Furthermore, Hocutt, Bowers and Donavan (2006, p. 201) identified that customers tend to reflect higher levels of commitment subsequent to a successful recovery encounter compared to pre-failure levels. The findings from current recovery research suggest that effective recovery of the seller firm exerts a positive impact on the commitment of the customer to the exchange relationship.

The *trust of customers* in the seller firm has been investigated by several studies on recovery (e.g., DeRuyter and Wetzels 2000; Kau and Loh 2006; La and Choi 2012). In general, *trust* reflects that "one party has confidence in an exchange partner's reliability and integrity" (Morgan and Hunt 1994, p. 23). In particular, DeRuyter and Wetzels (2000, p. 103) explored that effective recovery of the seller firm leads to higher levels of customer trust. Furthermore, Kau and Loh (2006, p. 107) identified that recovery satisfaction leads to higher levels of trust in the seller firm. Therefore, trust implies that customers accept dependency on the seller firm in turn for successful failure resolution. Customer trust represents one of the most fundamental outcomes of recovery on which seller firms should focus to rebuild the customer relationship after failure situations (La and Choi 2012, p. 117).

The *quality of the relationship* between customer and seller firm has been rarely considered in recovery research. Only two studies were retrieved from recovery literature, which explicitly investigated the quality of relationships between seller and customers in business-to-consumer markets (cf. Holloway, Wang and Beatty 2009; Vázquez-Casielles, Suárez Álvarez and Díaz Martín 2010). In this context, *relationship quality* has been defined as "the strength of a customer relationship with a service provider" (Holloway, Wang and Beatty 2009, p. 386). In particular, Holloway, Wang and Beatty (2009, p. 386) explored the impact of relationship quality on outcome variables subsequent to failed recovery encounters where the quality of the relationship with the seller firm was found to decrease after an unsatisfactory recovery. Their study suggested that relationship quality attains a "double-edge" role in recovery since it represents an exogenous as well as a moderating variable. Furthermore, Vázquez-Casielles, Suárez Álvarez and Díaz Martín (2010, p. 501) investigated the impact of recovery on customer relationships where a positive impact of justice perceptions of recovery on the relationship dimensions *commitment* and *trust* was identified. Nevertheless, Holloway, Wang and Beatty (2009) noted that recovery research has largely neglected "what may be *the* [italics by the original author] most important component of the customer-organization relationship: the cumulative quality of such relationships" (p. 386).

A number of studies has evaluated the impact of relationships in failure situations where either *buffering* or *magnifying* effects of relationships have been identified (e.g., DeWitt and Brady 2003; Hess, Ganesan and Klein 2003; Priluck 2003). The *buffering effect* has been related to situations where the negative effects of a failure situation are offset by the existing buyer-seller relationship due to lower recovery expectations (Hess, Ganesan and Klein 2003, p. 138). According to this logic, high quality relationships protect the seller firm against negative consequences of failure situations as customers are more forgiving in negative product or service encounters (Singh and Sirdeshmukh 2000, p. 164). Therefore, prior research has argued that high quality relationships may absorb the impact of failures and, thus, represent a protection to seller firms in failure situations (DeWitt and Brady 2003, p. 202). The *magnifying effect* refers to situations where the buyer-seller relationship strengthens the negative effects due to increased customer expectations of recovery (Holloway, Wang and Beatty 2009, p. 392). Based on these ambiguous findings, it remains unclear if high quality relationships absorb or amplify the impact of failures (Hess, Ganesan and Klein 2003, p. 141).

The *repurchase intentions* of customers have been considered as a decisive consequence of the recovery activities of seller firms. In particular, *repurchase intentions* have been defined "as a customer's belief that he or she would purchase from the same service firm at some future date" (Swanson and Kelley 2001, p. 56). Several studies have acknowledged that effective recovery leads to higher customer intentions to repurchase from the seller firm (e.g., Andreassen 2001; Maxham 2001; Swanson and Kelley 2001). In particular, customers de-

lighted by the recovery efforts of the seller firm were found to reflect higher motivation to purchase the same products or services continually (Andreassen 2001, p. 47). Empirical findings reflect that recovery exerts a direct effect as well as an indirect effect (i.e. mediated by customer satisfaction) on repurchase intentions (Smith and Bolton 1998, p. 76). The empirical results of another study confirm that recovery satisfaction reflects positively upon repurchase intentions (Holloway, Wang and Beatty 2009, p. 392).

The *opportunistic behavior* of customers has been considered by several studies in failure and recovery situations (e.g., Smith, Fox and Ramirez 2010; Wirtz and McColl-Kennedy 2010). More specifically, Wirtz and McColl-Kennedy (2010) noted that customers may "take advantage of the firm with little regard to principles. In many cases, customers had changed their mind, had unrealistic expectations or ignored quotations and contracts" (p. 659). In business practice, customers were found to intentionally make illegitimate (Reynolds and Harris 2005, p. 323) or legitimate (Wirtz and McColl-Kennedy 2010, p. 655) claims to the seller firm after failure situations. With respect to compensatory claims, seller firms are required to comprehend and counteract such opportunistic customer behavior to prevent monetary losses. Smith, Fox and Ramirez (2010) suggested that "[c]ompanies must acknowledge the unfair behavior of certain customers and manage them effectively" (p. 672). Overall, customers are less likely to reflect opportunistic behavior when they perceive the recovery efforts of the seller firm as fair since a lack of distributive justice was found to be the most common justification for employing opportunistic claiming behavior (Wirtz and McColl-Kennedy 2010, p. 662). To counteract these tendencies, seller firms have been recommended to develop fair recovery procedures and policies to prevent opportunistic customer claiming behavior (Smith, Fox and Ramirez 2010, p. 672).

The *word-of-mouth behavior* of customers has been considered as an important consequence of recovery by a number of studies (e.g., Bhandari, Tsarenko and Polonsky 2007; DeWitt and Brady 2003; Priluck and Lala 2009). The behavior of customers to share their recovery experiences with other individuals has been differentiated into *internal voice behavior* and *external voice behavior*. The *internal voice behavior* has been related to customer behavior to express dissatisfaction to the seller firm (Priluck and Lala 2009, p. 43). According to empirical findings of Priluck and Lala (2009, p. 55), an effective recovery reflects positively on the complaint behavior of customers towards the seller firm. Since the voicing of complaints to the seller firm represents an opportunity for failure resolution, seller firms should persuade dissatisfied customers to complain to the firm (Worsfold, Worsfold and Bradley 2007, p. 2497). The *external voice behavior* refers to the behavior to share dissatisfaction with current or potential customers of the seller firm (Priluck and Lala 2009, p. 43). The empirical results of prior studies suggest that effective recovery reflects positively on the behavior of customers to recommend the seller firm to other customers or friends (Kau and Loh 2006, p. 108). Since

external voice behavior implies that customers voice their dissatisfaction to potential customers instead of the seller firm, it prevents an opportunity for problem resolution (Priluck and Lala 2009, p. 55). Accordingly, the reduction of negative word-of-mouth represents another positive consequence of recovery (Wirtz and Mattila 2004, p. 160).

3 Theoretical foundation of investigation

As defined in paragraph 1.3, the third chapter examines and critically reflects on the theoretical foundation for the subsequent qualitative and quantitative investigation on recovery management in business-to-business markets (cf. figure 3.1).

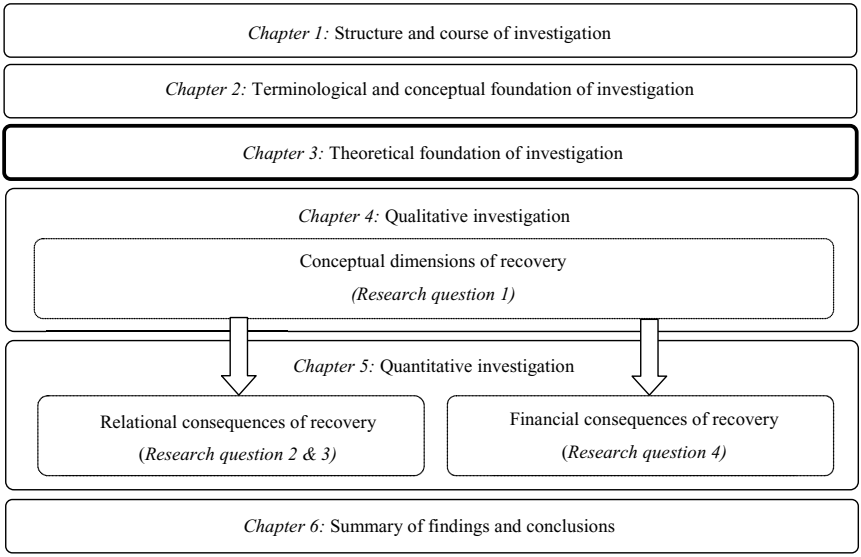


Figure 3.1: Positioning of the third chapter into the course of investigation
Source: own illustration

Due to the complexity of relationships in business markets, prior research has suggested to employ a multi-theory approach to understand relational exchange in business markets (Lambe, Wittmann and Spekman 2001, p. 28). Similarly, Van Vaerenbergh, Larivière and Vermeir (2012, p. 276) suggested that multiple theories are required to explain the impact of recovery on customer outcome variables. On the basis of the social science literature, *equity theory* provides a theoretical explanation for the *development* of exchange relationships, whereas *social exchange theory* offers a theoretical justification for the *continuation* of exchange relationships. Although both theories are derived from the social science discipline, these theories assume different perspectives on the explanation of exchange relationships. Accordingly, the theoretical foundation for the investigation is based on the *equity theory* (paragraph 3.1) and the *social exchange theory* (paragraph 3.2), followed by the *critical assessment* of its contributions (paragraph 3.3).

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_3, © Springer Fachmedien Wiesbaden 2014

3.1 The equity theory

Several studies have acknowledged the importance of *equity theory* for an understanding of the development of relationships (e.g., Adams 1965; Huppertz, Arenson and Evans 1978). The equity theory has theoretically descended from *social exchange theory* and was developed as an attempt to form a general theory for social psychology based on the integration of cognitive consistency theory, reinforcement theory and exchange theory (Walster, Walster and Berscheid 1978, p. 2). The equity theory focuses on the equitable allocation of benefits in exchange relationships based on the comparison of input-output ratios of exchange partners (Huppertz, Arenson and Evans 1978, pp. 250-251). The theoretical context of the equity theory is explicated by the *fundamental principles* (paragraph 3.1.1), the *comparison process* (paragraph 3.1.2), the *outcomes of the comparison process* (paragraph 3.1.3) and the *conceptual dimensions* (paragraph 3.1.4).

3.1.1 The fundamental principles of equity theory

As a foundation for equity theory, Walster, Berscheid and Walster (1973, pp. 151-154) developed five fundamental propositions on the evaluation of perceived equity in exchange relationships:

- *Proposition I:* The first proposition is based on the notion that "man is selfish" (Walster, Walster and Berscheid 1978, p. 7). According to this notion, individuals strive towards the maximization of their outcomes (i.e. rewards minus costs). On the basis of economic theory, they noted that individuals tend to buy products or services at the lowest possible prices.
- *Proposition IIA:* The second proposition relates to the conception that collective outcomes of groups can be maximized by the development of distribution systems for the allocation of benefits. More specifically, these distribution systems of benefits enable the group and its individuals to collectively maximize its outcomes (Walster, Walster and Berscheid 1978, p. 8).
- *Proposition IIB:* Derived from the second proposition, the group will motivate its members to attend and follow these distribution systems. By offering rewards to members, who reflect equitable behavior and penalties to members, who reflect inequitable behavior, the group ensures that its members behave equitably (Walster, Berscheid and Walster 1973, p. 151).
- *Proposition III:* The third proposition reflects that individuals, who participate in inequitable relationships experience certain levels of distress due to the inequitable exchange situation (Walster, Walster and Berscheid 1978, p. 17). The perceived level of inequity determines the level of distress perceived by the individual, independent from whether these individuals are suffering or benefiting from the inequitable situation.

- *Proposition IV:* The fourth proposition is related to the notion that individuals, who experience distress due to an inequitable relationship, seek to remove this distress by restoring equity in the relationship. The larger the perceived inequity, the higher is the level of distress and motivation of the individual to restore equity (Walster, Berscheid and Walster 1973, p. 154).

These fundamental propositions represent the theoretical foundation of equity theory and reflect the general judgments for the evaluations of equity in exchange relationships. The evaluation process of equity theory is based on a distinct comparison process.

3.1.2 The comparison process of equity theory

In general, equity theory postulates that individuals compare the ratios of their *inputs* (i.e. sacrifices) and *outcomes* (i.e. benefits) with the ratios of other individuals involved in the exchange situation (e.g., Adams 1963, 1965; Homans 1958). More specifically, the comparison process of equity theory has been illustrated by contrasting the ratios of *outcomes* and *inputs* (cf. figure 3.2).

$$\frac{O_A}{I_A} \begin{matrix} < \\ = \\ > \end{matrix} \frac{O_B}{I_B}$$

Figure 3.2: The comparison process of equity theory
Source: adapted from Adams 1965, pp. 280-281

The *outcomes* of individual A (O_A) or B (O_B) are reflected by the consequences that are derived by the participants from the exchange relationship (Walster, Berscheid and Walster 1973, p. 152). The *inputs* of individual A (I_A) or B (I_B) are related to the contributions of the participants to the exchange relationship. The ratios of *outcomes* and *inputs* represent the sum of the contributions and sacrifices, which have been considered as relevant for the specific exchange situation (Adams 1965, p. 281). The *relative outcomes* or *net gains* resulting from an exchange relationship are based on the outcomes minus the inputs resulting from the exchange relationship (Walster, Walster and Berscheid 1978, p. 12). In general, the relative outcomes of an exchange relationship are zero if outcomes are equal to inputs (O = I). In contrast, the relative outcomes are positive when O > I and negative when O < I in the exchange relationship. Accordingly, Walster, Berscheid and Walster (1973) noted that "the sign and the magnitude of this measure indicate how profitable the relationship has been to each participant" (p. 152). Since equity perceptions are subjective judgments, which significantly differ across individuals, individuals tend to differ in their calculation of inputs and outputs (Walster, Berscheid and Walster 1973, p. 153). According to equity theory, individuals per-

ceive to be treated fairly in an exchange relationship when they evaluate their outcomes and their inputs as balanced (Adams 1965, p. 280). A *state of equity* is perceived by the exchange partners when the ratio of their outcomes and inputs is equal (Oliver and DeSarbo 1988, p. 496). Only equal ratios of benefits and sacrifices are able to yield equitable states (Greenberg 1990, p. 400). Thus, a *state of equity* exists when the ratio of individual A equals the ratio of individual B (cf. figure 3.3).

$$\frac{O_A}{I_A} = \frac{O_B}{I_B}$$

Figure 3.3: The state of equity according to equity theory
Source: adopted from Adams 1965, p. 281

According to equity theory, an equitable state can be achieved only when the relative outcomes of the exchange relationships are equal across the exchange partners. Walster, Walster and Berscheid (1978) noted that "[a]n equitable relationship exists if a person scrutinizing the relationship concludes that all participants are receiving equal relative gains from the relationship" (p. 12). Individuals hold normative expectations on a *fair* relationship between outcomes and inputs, which are formed by the socialization process of the individual within a social context (Adams 1965, p. 279). In particular, Adams (1965) noted that these expectations "are based by observation of the correlations obtaining for a reference person or group – a co-worker or a colleague, a relative or neighbor, a group of co-workers, a craft group, and industry-wide pattern" (p. 279). When the ratios of outcomes and inputs are not in balance with the ratio of the exchange partner, these normative expectations are violated and inequity in the exchange relationship is perceived (Adams 1965, p. 280). A *state of inequity* is achieved when the ratio of outcomes and inputs are unequally distributed across exchange partners in the exchange relationship (Adams 1963, p. 422). More specifically, Adams (1965) suggested that "felt injustice is a response to a discrepancy between what is perceived to be and what is perceived should be" (p. 272). A *state of inequity* exists when the ratio of the outcomes and inputs of an individual is smaller or larger than the ratio of the exchange partner (cf. figure 3.4).

$$\frac{O_A}{I_A} < \frac{O_B}{I_B} \qquad or \qquad \frac{O_A}{I_A} > \frac{O_B}{I_B}$$

Figure 3.4: The state of inequity according to equity theory
Source: adopted from Adams 1965, pp. 280-281

On the basis of their calculations of inputs and outputs, individuals evaluate the state of equity of the exchange relationship, which reflects upon behavioral or psychological outcomes of this process.

3.1.3 The outcomes of the comparison process of equity theory

In general, research on equity theory reflects that *inequity* results in dissatisfaction and negative emotions such as anger or guilt resulting in distress, which motivates individuals to initiate actions to restore equity or decrease inequity (Adams 1965, p. 283). Although it has been acknowledged that dissatisfaction is not exclusively determined by inequitable exchange situations, dissatisfaction may be explained by inequity in several situations (Adams 1965, p. 296). Exchange partners are expected to perceive distress by the inequitable relationship, whereas individuals perceive higher distress and motivation to restore equity to the relationship when they feel responsible for the inequitable situation (Walster, Berscheid and Walster 1973, p. 166). To regain an equitable state in the exchange relationship, individuals tend to adjust their inputs or outputs to the exchange relationship (Greenberg 1990, p. 400). Accordingly, individuals were found to employ two fundamental strategies to restore equity in an inequitable exchange relationship: reinstate the *objective equity of the relationship* or reestablish the *psychological equity of the relationship* (e.g., Walster, Berscheid and Walster 1973; Walster, Walster and Berscheid 1978).

a.) Reinstating objective equity

Based on this strategy, an individual may restore the *objective equity of the relationship* by changing its own outcomes or inputs to or the outcomes or inputs of the exchange partner from the exchange relationship by the following responses (Walster, Berscheid and Walster 1973, p. 154):

- *Increasing or decreasing its inputs:* The individual may *increase or decrease its inputs* to the exchange situation (Adams 1965, p. 283). An individual may increase (if advantageous) or decrease (if disadvantageous) its own efforts to remove inequity in the exchange situation.
- *Increasing or decreasing its outcomes:* The individual may *increase or decrease its outcomes* from the exchange situation (Adams 1965, p. 288). An individual may increase (if disadvantageous) or decrease (if advantageous) its benefits to decrease or abolish the inequity of the exchange situation (Walster, Berscheid and Walster 1973, p. 156).
- *Increasing or decreasing the inputs of others:* The individual may *increase or decrease the inputs of others* to the exchange situation (Leventhal 1976b, p. 225). An individual may motivate others to increase (if advantageous) or decrease (if disadvantageous) their efforts to reduce or eliminate the inequity of the exchange situation.

- *Increasing or decreasing the outcomes of others:* The individual may *increase or decrease the outcomes of others* from the exchange (Leventhal 1976b, p. 225). An individual may increase (if disadvantageous) or decrease (if advantageous) the benefits of others to reduce the inequity of the exchange situation.
- *Leaving the field:* The individual may *withdraw* completely from the exchange situation (Adams 1965, p. 295). An individual may (temporarily) terminate or abandon the exchange relationship to reduce or eliminate the inequity of the exchange situation.

b.) Reestablishing psychological equity

Alternatively, an individual may restore the *psychological equity of the relationship* by cognitively distorting its perceived outcomes or inputs to or the perceived outcomes or inputs of the exchange partner from the exchange relationship (Walster, Berscheid and Walster 1973, p. 154). Based on this psychological strategy, equity is restored by distorting perceptions rather than altering the actual situation (Leventhal 1976b, p. 227).

- *Distorting its inputs or outcomes:* The individual may *cognitively distort its inputs or outcomes* related to the exchange situation (Adams 1965, p. 250). An individual may cognitively change the relevance of its inputs or outcomes to reduce or eliminate the inequity of the exchange situation.
- *Distorting the inputs or outcomes of others:* The individual may *cognitively distort the inputs or outcomes of others* from the exchange situation (Adams 1965, p. 292). An individual may convince itself or others that the outcomes derived from the exchange are higher and that the relationship is equitable (Walster, Berscheid and Walster 1973, p. 156).
- *Change the object of comparison:* The individual may *alter the object of comparison* in the case of an indirect exchange relationship (Adams 1965, p. 294). An individual may compare the inputs and outcomes with the ones of a third party, which may result in terminating the exchange relationship with others.

In general, individuals perceiving inequity in an exchange relationship may choose among these behavioral or psychological responses to reduce or eliminate the inequity of the exchange situation (Adams 1965, p. 295). More specifically, the comparison process and the potential outcomes of the comparison process suggested by equity theory are illustrated by figure 3.5.

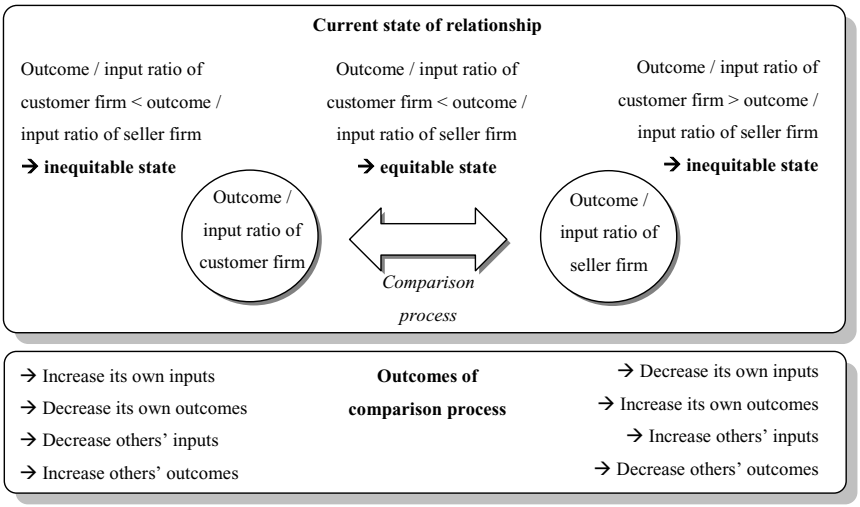


Figure 3.5: The comparison process and outcomes of equity theory
Source: own illustration

3.1.4 The conceptual dimensions of equity theory

Based on contemporary equity research, the fundamental dimensions of equity have been differentiated into *distributive justice*, *procedural justice* and *interactional justice,* which provide the conceptual basis for the evaluation of justice perceptions in the context of exchange situations.

a.) Distributive justice

In the initial stage, equity theory has focused on *distributive justice*, which relates to the justice or fairness of decision outcomes (e.g., Adams 1965; Deutsch 1975; Leventhal 1976a, 1976b; Walster, Berscheid and Walster 1973). In general, *distributive justice* is achieved within an exchange relationship, when the *profits* of each individual are proportional to its *investments* (Homans 1958, p. 604). These profits refer to the rewards received from the exchange minus the costs sacrificed for the exchange (Adams 1965, p. 273). While *costs* relate to rewards obtained from alternative exchanges or specific exchange risks, *investments* refer to all attributes (i.e. skills, efforts, experiences) contributed to the exchange relationship. Individuals are generally motivated to maintain distributive fairness to receive rewards from others (Walster, Berscheid and Walster 1973, p. 166). The specific inputs and outputs may differ across individuals and therefore the ratio of inputs and outcomes is relevant for the evaluation of equity (Adams 1965, p. 280). In particular, *distributive justice* of individual A and individual B in a dyadic exchange relationship may be calculated as the ratio of rewards minus costs in relation to its investments.

When these ratios are equal, the exchange partners will perceive a state of distributive justice as the outcomes of exchange are equally distributed within the exchange relationship. When these ratios are unequally distributed, the exchange partners will perceive a state of injustice where one exchange partner will be advantaged and another disadvantaged (Adams 1965, p. 273). Therefore, Deutsch (1975, p. 143) developed three propositions based on which the principles for the allocation of resources are differentiated among different groups of actors. More specifically, Deutsch suggested that groups with an economic orientation will apply the *equity principle*, groups with a solidarity orientation will employ the *equality principle* and groups with a care orientation will use the *need principle* for the assessment of distributive justice. In essence, the equity principle is specifically relevant for the evaluation of fairness in exchange relationships in business-to-business markets. In contrast to the unidimensional conceptualization of equity theory, Leventhal (1976b) introduced and later refined (1980) the *justice judgment theory*, which postulates that an individual's fairness judgments are based on more than one justice rule. A *justice rule* has been defined as "an individual's belief that a distribution of outcomes, or procedure for distributing outcomes, is fair and appropriate when it satisfies certain criteria" (Leventhal 1980, p. 6). Therefore, equity theory has been further extended by *procedural justice* and, later, *interactional justice* perceptions.

b.) Procedural justice

Since equity research has largely focused on distributive justice (e.g., Adams 1965; Walster, Berscheid and Walster 1973), early studies have failed to acknowledge that justice judgments also consist of aspects of *procedural justice* (Walker, Lind and Thibaut 1979, p. 1402). In general, *procedural justice* refers to the fairness of processes, policies and procedures, which lead to the decision outcomes of a disagreement situation (e.g., Leventhal 1980; Lind and Tyler 1988; Thibaut and Walker 1975). Leventhal (1976b) noted that *procedural fairness* is achieved "when information about receivers is collected and utilized properly and when there is an appropriate division of control over the allocation process" (pp. 232-233). Leventhal (1980) defined procedural fairness as "an individual's perception of the fairness of procedural components of the social system that regulate the allocative process" (p. 18). Therefore, procedural justice is facilitated through the influence of the individual on the decision-making process (*process control*) or the outcome of the decision-making process (*decision control*) respectively (Lind and Tyler 1988, p. 9). The allocation of control among the individuals involved in the dispute-settlement process represents a key element for the perception of justice of the decision-making process (Thibaut and Walker 1975, p. 15). Based on equity theory, Leventhal (1980, p. 34) developed six *procedural justice rules* for an individual's evaluation of the fairness of allocative procedures, which are selectively applied by individuals.

c.) Interactional justice

Beyond distributive and procedural justice, *interactional justice* has emerged as a third perspective of justice in equity theory, which is related to the fairness of the treatment of individuals during the endorsement of procedures (e.g., Bies and Moag 1986; Bies and Shapiro 1987). In general, Bies and Moag (1986) pointed out that interactional justice is based on the recognition that individuals "are sensitive to the quality of interpersonal treatment they receive during the enactment of organizational procedures" (p. 44). For several decades, justice research has neglected the interactional element of justice and has focused on the procedural and distributive elements of justice. In particular, Bies and Moag (1986) related this situation to the notion that procedural justice research has "failed to distinguish the procedure from its enactment" (p. 45). The evaluation of interactional elements of justice should be separated from the evaluation of procedural justice. In contrast to prior models of justice evaluations, which are based on comparative judgments of justice, interactional justice criteria are based on non-comparative, absolute judgments (Bies and Moag 1986, p. 51). More recently, Colquitt (2001, p. 396) suggested that interactional justice may be further differentiated into *interpersonal justice* (i.e. fairness of interaction between individuals) and *informational justice* (i.e. fairness of quality and quantity of information) dimensions.

As a conclusion, justice perceptions of individuals in exchange situations are based on three fundamental dimensions of justice, which need to be considered as related, but distinct constructs (Bies and Moag 1986, p. 45). Since perceptions of procedural fairness significantly influence an individual's perceptions of distributive fairness, fair outcomes are difficult to achieve in the absence of fair procedures (Leventhal 1976b, p. 230). Accordingly, Bies and Moag (1986) noted that the evaluation of allocation decisions need to be perceived as "a *sequence of events* in which a *procedure* generates a process of *interaction* and decision making through which an *outcome* is allocated by someone [italics by original author]" (p. 45). Therefore, it is required to conceptualize equity as a multi-dimensional construct, which entails each of the three justice dimensions to capture the entire scope of an individual's justice perceptions.

3.2 The social exchange theory

The *social exchange theory* has been considered as a theoretical foundation for the comprehension of the maintenance of exchange relationships. Several studies have acknowledged the fundamental role of social exchange theory for the analysis of exchange relationships in business-to-business markets (e.g., Dwyer, Schurr and Oh 1987; Lambe, Wittmann and Spekman 2001).

The *social exchange theory* has emerged from the research field of sociology (Blau 1964) and social psychology (Homans 1958; Thibaut and Kelley 1959) as an independent research

stream in the social science discipline. The theoretical foundation of social exchange theory is based on the fundamental research by the sociologists Blau (1964), Emerson (1962) and Homans (1958). In his seminal article, Homans (1958) stated that *exchange* represents "one of the oldest theories of social behavior" (p. 597). Subsequently, Thibaut and Kelley (1959) shaped the theoretical foundation of social exchange theory. Despite the differences in their approach and methods of theory construction among these studies, their investigations are related to one common theme – *social exchange* (Emerson 1976, p. 335). The term "social exchange" has been defined by Blau (1968) as the "voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others" (pp. 91-92). The social exchange theory is based on the assumption that exchange partners develop and maintain exchange relationships with the expectation that the resulting benefits will be exchanged continuously (Emerson 1976, p. 359). Therefore, social exchange theory postulates that exchange relationships comprise economic and/or social outcomes. Lambe, Wittmann and Spekman (2001, pp. 4-5) suggested that this exchange may not only comprise tangible resources (i.e. goods, money), but may also include intangible resources (i.e. social benefits, friendship) for the exchange partners. Although economic benefits are important for the continuation of exchange relationships, the social benefits resulting from exchange relationships attain a fundamental role for the maintenance of these relationships.

3.2.1 The fundamental principles of social exchange theory

In exchange situations, individuals generally incur costs related to what they provide to exchange partners, while they receive rewards for what they receive from exchange partners. Based on social exchange theory, individuals engage in a process where resources and obligations to reciprocate are exchanged, which balance at an equilibrium (Homans 1958, p. 606). Accordingly, the continuous exchange and reciprocation of rewards increases the interdependence of exchange partners, facilitates the development of trust in the exchange partner and strengthens the social relationship between the exchange partners (Blau 1964, p. 4). Therefore, social exchange is based on the fundamental principles of social interaction and interpersonal relations. Nevertheless, the process of social exchange is jointly created by the individuals involved in the exchange, whereas the individual's actions are independent from each other (Blau 1964, p. 107).

The *reciprocity* of obligations constitutes a fundamental characteristic of social exchange. Based on the principles of social exchange, an individual, who has received rewards from others, is expected to reciprocate these rewards at a suitable point in time (Blau 1964, p. 4). If an individual fails to reciprocate these rewards, others will exclude him/her from future rewards and the social exchange process may be terminated. Blau (1964) argued that if an individual reciprocates adequately, "the social rewards the other receives serves as inducements to extend further assistance, and the resulting mutual exchange of services creates a social bond

between the two" (p. 4). As a result, social exchange relationships have been considered as the central unit of analysis for social exchange theory. In particular, Emerson (1976) noted that long-term exchange relationships shall be employed in social exchange theory as the unit of analysis to allow for investigations on the "structures of continuing interaction between parties – corporate groups and their role-occupying members; and networks employing many actors, both corporate groups and individuals" (p. 359).

Social exchange differs from *economic exchange* across several dimensions. While social exchange is based on the unspecific nature of obligations resulting from social exchange, economic exchange is based on formal contracts, which explicitly define the resulting obligations. More specifically, Blau (1964) mentioned that *social exchange* "involves the principle that one person does another a favor, and while there is a general expectation of some future return, its exact nature is definitely *not* stipulated in advance [italics made by original author]" (p. 93). Due to the unspecified obligations arising from social exchange and difficulty to determine the exact price or costs from the social exchange, it is difficult if not infeasible to consider economic principles for social exchange (Homans 1961, p. 72). Therefore, individuals tend to fulfill their social obligations in the exchange relationship despite the lack of legal contracts (Blau 1964, p. 97). For that reason, social exchange theory considers long-term exchange relationships as the unit of analysis, whereas economic exchange theory refers to transactional exchange situations (Emerson 1976, p. 350) and, hence, is specifically relevant for the evaluation of long-term exchange relationships.

3.2.2 The comparison process of social exchange theory

According to social exchange theory, exchange partners will maintain an exchange relationship as long as economic and social benefits result from the relationship (Homans 1958, p. 606). The benefits derived from an exchange relationship are assessed on the basis of individual standards, evaluated in combination and compared to alternative exchange relationships (Thibaut and Kelley 1959, pp. 21-24). Exchange partners weigh the social and economic outcomes of an exchange relationship against the potential outcomes of alternative exchange relationships to determine the continuation or termination of the relationship (Lambe, Wittmann and Spekman 2001, p. 6). The evaluation of dyadic exchange relationships based on comparison levels has been developed in social exchange literature (e.g., Thibaut and Kelley 1959; Kelley and Thibaut 1978). The comparison process is based on the differentiation of positive components (i.e. rewards) from negative components (i.e. costs) derived from the exchange relationship (Thibaut and Kelley 1959, p. 10). Since the behavioral patterns will be repeated, the value of rewards will decrease, whereas the value of costs will increase over time. Accordingly, individuals in exchange relationships will alter their behavioral patterns over time to maintain rewards and costs at an acceptable level. The sum of all prior exchange interactions represents the history of the exchange relationship, which is used by the exchange

partners to estimate the future costs and benefits of the respective exchange relationship (Kelley and Thibaut 1978, p. 8). The evaluation of exchange relationships is based on *interactions* and *comparison levels* to determine the continuation or termination of the relationship.

a.) Interactions

The *interaction* represents the foundation for any kind of exchange relationship. Thibaut and Kelley (1959) postulated that "[t]he essence of any interpersonal relationship is interaction. Two individuals may be said to have formed a relationship when on repeated occasions they are observed to interact. By interaction it is meant that they emit behavior in each other's presence, they create products for each other, or they communicate with each other" (p. 10). An interaction may be initiated as a deliberate decision to interact between individuals based on the anticipation of positive outcomes or the undeliberate decision based on chance or factors beyond the control of the individuals (Thibaut and Kelley 1959, p. 19). The continuation of an interaction is determined by the evaluation of the outcomes of prior interactions and the anticipation of future outcomes of the exchange relationship. Accordingly, interactions tend to raise certain levels of satisfaction and reflect different consequences for the individuals involved in the exchange. The consequences or outcomes of the interaction between exchange partners have been differentiated into *rewards* (i.e. pleasures or satisfactions) received and *costs* (i.e. physical or mental efforts) incurred by the individuals (Thibaut and Kelley 1959, p. 12). The evaluation of outcomes of any type of interaction or series of interactions is based on the comparison of rewards received and costs incurred for each individual.

b.) Comparison levels

The *comparison levels* represent a reference standard or criterion based on which the acceptance of experienced or expected outcomes may be evaluated by individuals (Thibaut and Kelley 1959, p. 21). Based on the concepts developed by Thibaut and Kelley (1959) and Kelley and Thibaut (1978), the *comparison level (CL)* and *comparison level of alternatives* (CL_{alt}) provide a foundation to evaluate the outcomes derived from current and alternative exchange relationships.

- *Comparison level (CL):* In general, *CL* represents an *internal comparison standard* where the anticipated level of (economic and/or social) benefits is compared to the experienced level of (economic and/or social) benefits to determine the attractiveness of the current exchange relationship (Thibaut and Kelley 1959, p. 21). Based on the CL criterion, an individual evaluates the outcomes (i.e. rewards and costs) of an exchange relationship to determine its satisfaction with the present exchange relationship. Therefore, CL represents a neutral point (or area) on the satisfaction scale where outcomes above CL result in satisfactory relationships and outcomes below CL result in unsatisfactory relationships (Thibaut and Kelley 1959, p. 81). Nevertheless, CL reflects the

outcomes perceived by the individual and weighted according to its salience and the level of outcomes, which the individual perceives to deserve from the relationship (Kelley and Thibaut 1978, p. 3). Consequently, the position of CL on an individual's continuum is solely determined by the outcomes perceived by the individual (Kelley and Thibaut 1978, p. 8).

- *Comparison level of alternatives (CL_{alt}):* In contrast, CL_{alt} constitutes an *external comparison standard* where the expected level of (economic and/or social) benefits from the most feasible alternative relationship is compared with the experienced level of (economic and/or social) benefits from the current relationship to determine whether to maintain or leave the present exchange relationship (Thibaut and Kelley 1959, pp. 21-22). Based on the CL_{alt} criterion, the current exchange relationship will be maintained based on outcome levels above CL_{alt} and terminated based on outcomes below CL_{alt}. The alternative relationships, which serve as a reference standard for the CL_{alt} criterion, may comprise other relational dyads, complex relationships or no relationship at all (Thibaut and Kelley 1959, p. 22). In the latter case, the individual may be able to attain superior ratios of rewards and costs by itself than in any other available relationship.

A higher degree of benefits derived from an exchange relationship compared to expectations (i.e. CL) and alternative relationships (i.e. CL_{alt}) provides a motivation for the exchange partner to maintain the exchange relationship (Dwyer, Schurr and Oh 1987, p. 18). In particular, Kelley and Thibaut (1978) noted that "[t]he magnitudes of the rewards and costs experienced by the dyadic members will depend on their needs and values, their skills and abilities in performing the behaviors, and the congruency of the behaviors or behavioral products with their needs and values" (p. 8).

3.2.3 The outcomes of the comparison process of social exchange theory

Several studies have investigated the cognitive and behavioral consequences related to the comparison process of social exchange theory (e.g., Blau 1964, 1968; Homans 1958; Thibaut and Kelley 1959). The following outcome variables have been investigated in the social sciences to reflect the consequences of the evaluation process stipulated by the social exchange theory:

- *Trust* attains an important role in social exchange theory since it determines the dedication of the exchange partners to the exchange relationship. The repeated reciprocation of benefits across multiple interactions develops trust within exchange relationships (Blau 1964, p. 98). Thus, exchange partners further commit themselves to the exchange relationship by neglecting alternative relationships, which facilitates trust in the reciprocation of future obligations (Thibaut and Kelley 1959, p. 22). Therefore, trust is essential for the continuation of exchange relationships, which are reflected by continuous obli-

gations to the relationship and the trust that the exchange partner will reciprocate these obligations in future (Blau 1964, p. 99).

- *Commitment* represents an important outcome variable of exchange relationships and a prerequisite for the continuation of exchange relationships since exchange relationships require initial as well as continuous commitment (i.e. investments) from the exchange partners (Blau 1964, p. 98). Therefore, mutual commitment is a critical determinant for social exchange since it ensures continuous investments (i.e. economic and/or social benefits) into the exchange relationship to generate mutual benefits (Dwyer, Schurr and Oh 1987, p. 19).
- *Satisfaction* represents a beneficial outcome of an exchange relationship. Therefore, exchange partners, who derive benefits from exchange relationships, which exceed their expectations (i.e. CL) and alternatives (i.e. CL_{alt}) tend to continue or even expand the relationship with the exchange partner (Thibaut and Kelley 1959, p. 59). Nevertheless, CL judgments usually lag behind the experienced or anticipated outcomes.
- *Dependence* represents a central outcome variable of exchange relationships and is determined by the level to which benefits cannot be attained outside of the exchange relationship. If the outcomes of the exchange are lower than CL_{alt} for at least one individual, the exchange relationship will be discontinued (Thibaut and Kelley 1959, p. 65). However, if the outcomes of the exchange are lower than CL_{alt} for both individuals, the relationship may be continued when the exchange partners are dependent on each other. Thibaut and Kelley (1959) suggested that "as dependence on the relationship begins to develop, it becomes increasingly important to take account of the future course of the relationship – of its stability and irreversibility" (p. 65). The benefits available from alternative relationships (CL_{alt}) determine the dependency of the exchange partner on the exchange relationship or, alternatively stated, the power of the other exchange partner within the relationship (Thibaut and Kelley 1959, p. 101). Therefore, exchange partners with a high degree of power will attain superior outcome positions and, thus, be able to influence the behavior of inferior exchange partners into the intended direction (Thibaut and Kelley 1959, p. 115).
- *Relational norms* have been discussed as a fundamental outcome of social exchange. In particular, *norms* may be understood as explicitly or implicitly accepted behavioral rules, which are developed in exchange relationships over time (Thibaut and Kelley 1959, p. 126). Exchange partners tend to comply with norms since they expect to receive certain benefits from the exchange relationship (Emerson 1976, p. 355). According to social exchange theory, relational norms may be considered as governance instruments within exchange relationships since social exchange is largely governed by social norms instead of contracts (Blau 1964, p. 97). As a result, repeated interactions between exchange partners develop relational norms, which tend to govern future interactions. The use of relational norms raises the efficiency of exchange relationships

based on explicitly or implicitly agreed rules of interaction, which results in a reduction of uncertainty and opportunistic behavior in the exchange relationship (Lambe, Wittmann and Spekman 2001, p. 12).

According to social exchange theory, these cognitive and behavioral outcomes are interrelated. Thibaut and Kelley (1959, p. 23) argued that the divergence between dependency and satisfaction serves to differentiate CL_{alt} from CL. In particular, CL is linked to CL_{alt} since the higher the level of satisfaction (CL) with the current relationship, the higher is the comparison level (CL_{alt}) for the evaluation of an alternative relationship. In addition, Thibaut and Kelley (1959) noted that "[a]s a result of many experiences in many relationships, the person develops a general and relatively constant expectation of the satisfaction he can achieve in association with others – a generalized conception of his worth in interpersonal relationships" (p. 97). Therefore, CL and CL_{alt} are correlated as the outcomes of alternative relationships (CL_{alt}) are considered in the judgment of the current relationship (CL) per se (Thibaut and Kelley 1959, p. 103). Furthermore, CL_{alt} determines the dependency of the individual on the relationship. Since individuals in a dyadic relationship are dependent on each other to a certain extent, values of these individuals tend to converge over time, which significantly reduces interpersonal conflicts and increases satisfaction in the exchange relationship (Thibaut and Kelley 1959, p. 124). The comparison process of the social exchange theory and its outcomes are illustrated by figure 3.6.

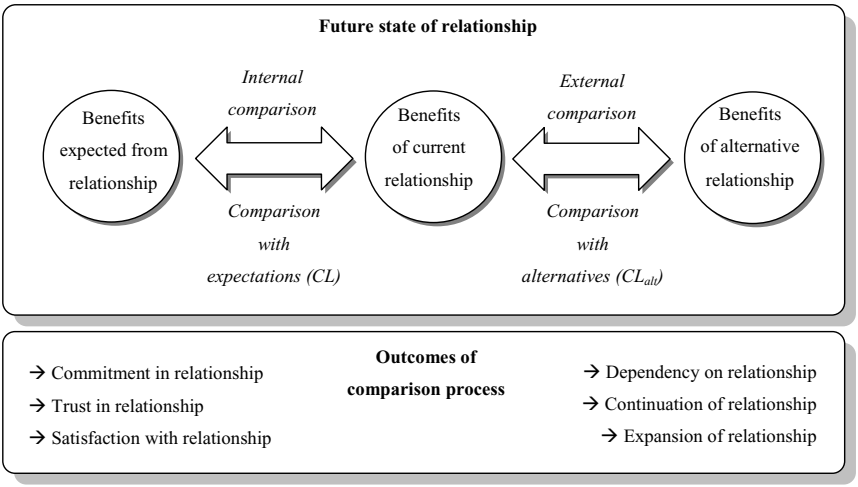


Figure 3.6: The comparison process and outcomes of social exchange theory

Source: own illustration

In fact, social exchange significantly differs from economic exchange. In general, *economic exchange* is based on formal contracts, which explicitly define the terms of exchange and the resulting obligations that may be legally enforced by the exchange partners (Blau 1964, p. 93). In contrast, *social exchange* is based on unspecific obligations, which are discharged on the basis of mutual trust and cannot be legally enforced by the exchange partners (Blau 1964, p. 112). Therefore, *social exchange theory* considers the imperfect social structures, which can be found in long-term relationships. Accordingly, Emerson (1976) suggested that "social exchange theory seems to be forming specifically toward the analysis of such real but imperfect social structures – that is, social structures involving fairly long-term relations between people, in which power is neither diffuse nor equally distributed, as perfect competition implies" (p. 351). Consequently, social exchange theory has been considered as a suitable theoretical foundation for the analysis of the continuation of exchange relationships in the present investigation.

3.3 Critical assessment of theoretical foundation

The specific characteristics of business markets (cf. paragraph 2.1.1.2) emphasize the complexity of an investigation on exchange relationships in business-to-business markets. Accordingly, buyer-seller relationships in business markets represent a complex phenomenon, which may not be explained by a single, unifying theory (Narayandas and Kasturi Rangan 2004, p. 75). Although both *equity theory* and *social exchange theory* have emerged from the social science discipline, each theory takes a different perspective for the explanation of exchange relationships. Wilson (1995) argued that the historical roots of business-to-business relationships are based on social exchange relationships where "[r]elationships between buyers and sellers have existed since humans began trading goods and services" (p. 335). The different perspectives of equity theory and social exchange theory with respect to relationships in business markets have been critically assessed.

a.) Equity theory

The *equity theory* offers a fundamental contribution to the understanding of the development of relationships in business-to-business markets. In fact, Walster, Walster and Berscheid (1978) suggested that *equity theory* provides "a natural framework for analyzing business relationships" (p. 114). Based on the equity theory, justice or fairness judgments of exchange partners determine the development of exchange relationships (Walster, Berscheid and Walster 1973, p. 154). From a long-term perspective (i.e. relationship), the tolerance level for inequity may increase as equity can be retained over a longer time period, whereas from a short-term perspective (i.e. transaction) inequitable situations requires immediate actions to restore equity (Cook and Parcel 1977, p. 83). Oliver and Swan (1989, p. 33) suggested that customer perceptions of equity represent a central determinant for the development and maintenance of exchange relationships. Nevertheless, research on equity theory has mostly

focused on customer evaluations of justice with respect to exchange transactions (e.g., Oliver 1980, 1997). More recently, the focus of equity research has shifted from a transactional to a cumulative perspective and the role of equity in cumulative evaluations significantly differs from transactional evaluations. In particular, Olsen and Johnson (2003, p. 186) differentiated between *transactional equity* and *cumulative equity judgments*. The cumulative judgment may be considered as an overall judgment of the perceived fairness of the exchange relationship considering the equity judgments of all prior transactions (cf. figure 3.7).

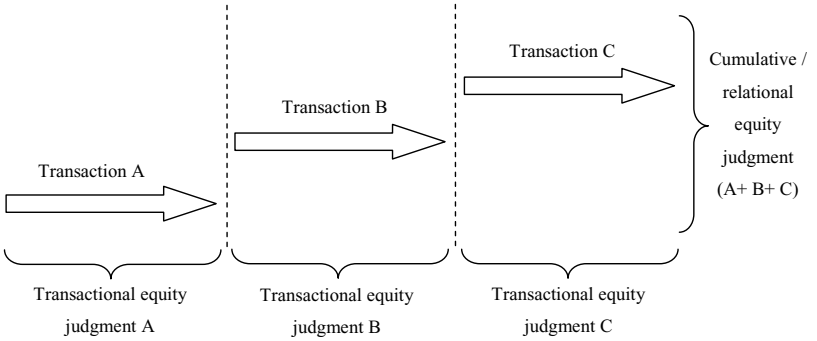


Figure 3.7: The comparison of transactional versus cumulative equity judgments
Source: own illustration

Several studies have applied *equity theory* for the evaluation of recovery from a customer perspective (e.g., DeRuyter and Wetzels 2000; Hoffman and Kelley 2000; McColl-Kennedy and Sparks 2003). In failure situations, exchange partners are likely to perceive a state of inequity due to a perceived loss resulting from a product or service failure. Boshoff and Leong (1998) argued that "[w]hen a service failure occurs, the inequity of the exchange upsets the relationship between the service firm and its customers" (p. 27). In this situation, seller firms are required to execute adequate recovery activities to restore the state of equity in the exchange relationship. For the evaluation of the recovery encounter, the customer compares its own inputs to the failure situation (i.e. economic and psychological costs, time, effort) with its own outcomes from the failure situation and the recovery activities (i.e. refund, apology, replacement) of the seller firm (Hoffman and Kelley 2000, p. 420). When the ratios are perceived as equal, the individual feels being treated in an equitable manner and will be satisfied with the exchange (Oliver and Swan 1989, p. 33). Accordingly, seller firms are required to focus on the recovery of customers' equity perceptions when customers are dissatisfied and complain to the seller firm to restore perceived equity in the relationship (Olsen and Johnson 2003, p. 193). Michel, Bowen and Johnston (2009) argued that "service recovery must reestablish justice" (p. 255). Therefore, equity theory represents an adequate theoretical founda-

tion for the explanation of the *transactional* and *cumulative* justice judgments of customers related to the recovery activities of seller firms. Accordingly, the relevance of equity theory for the analysis of buyer-seller relationships in business markets has been emphasized (Wagner, Eggert and Lindemann 2010, p. 846). In the present investigation, equity theory has been applied to investigate the effects of recovery on the *development of exchange relationships* in business markets.

b.) Social exchange theory

The *social exchange theory* provides a fundamental contribution towards the comprehension of the *continuation of exchange relationships* in business-to-business markets. As the social exchange theory relates to the social relationship between exchange partners as the central means of governance, it has been suggested by several studies as a suitable foundation for the explanation of relational exchange in business markets (e.g., Anderson and Narus 1990; Cannon and Perreault 1999; Dwyer, Schurr and Oh 1987; Lambe, Wittmann and Spekman 2001). According to social exchange theory, individuals in exchange relationships evaluate the economic or social benefits derived from the relationship and compare these benefits with their expectations and alternative relationships (Dwyer, Schurr and Oh 1987, p. 19). If the overall benefits from the exchange relationship exceed their expectations (i.e. CL) and alternatives (i.e. CL_{alt}), the exchange relationship will be continued (Lambe, Wittmann and Spekman 2001, p. 13). Due to the long-term orientation of business relationships, exchange partners may even sacrifice current benefits in favor of future benefits if an equitable distribution of benefits from the exchange relationship is expected (Lambe, Wittmann and Spekman 2001, p. 9). Due to the limitations of economic theories to explain relational modes of governance, business-to-business research has increasingly focused on social exchange theory to explicate relational exchange in business markets (Lambe, Wittmann and Spekman 2001, p. 3). The social exchange theory postulates that the benefits arising from the social interaction between exchange partners determine the maintenance of the business relationship. Since exchange relationships are seldomly related only to economic exchange, the social dimension attains a fundamental role in relational exchange (Cook and Rice 2006, p. 70). Therefore, social exchange theory provides a sound theoretical foundation for the evolution of buyer-seller relationships in business markets. Although an application of social exchange theory to the business-to-business context comprises several challenges, Lambe, Wittmann and Spekman (2001, p. 30) have considered it as a valuable theory to explicate relational exchange in the context of business-to-business markets. Since social exchange theory provides an explanation on the pivotal role of the social dimension in exchange relationships (Brennan, Canning and McDowell 2007, p. 68), it is applied to examine the impact of recovery on the *continuation of exchange relationships* in business-to-business markets.

c.) Differences between equity and social exchange theory

Prior studies have suggested that social exchange theory should be employed in combination with additional theories to provide a profound understanding of relational exchange in business-to-business markets (Lambe, Wittmann and Spekman 2001, p. 28). Due to the complexity of relationships in business markets, Narayandas and Kasturi Rangan (2004, p. 75) pointed out that the effective management of relationships in business markets may not be explained by any single, unifying theory. Consequently, the present investigation has adopted a *multi-theory approach* to overcome the theoretical weaknesses to explain the development and maintenance of business relationships experienced by previous research. Although *equity theory* and *social exchange theory* have both emerged from the social science discipline, these theories reflect different perspectives to explicate the development and evolution of exchange relationships in business markets (cf. figure 3.8).

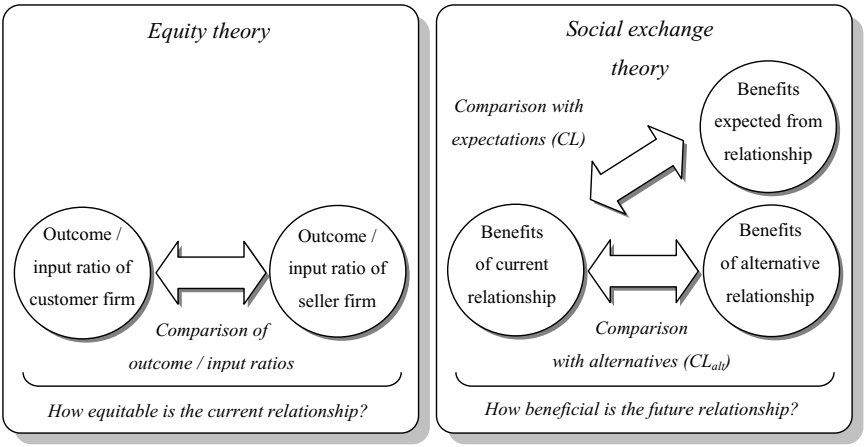


Figure 3.8: The comparison process of equity theory versus social exchange theory

Source: own illustration

In particular, *equity theory* postulates that relational exchange is reinforced by the equitable allocation of outcome / input ratios among exchange partners, which determines the *current state of the exchange relationship.* Accordingly, equity theory contributes to the explanation of the *development of exchange relationships in business markets* from a *mid-term perspective*. In contrast, *social exchange theory* suggests that relational exchange is facilitated by superior benefits (rewards minus costs) compared to expectations and alternative relationships, which reflects the *future state of the exchange relationship*. Therefore, *social exchange theory* contributes to the explication of the *continuation of exchange relationships in business markets* from a *long-term perspective*. Since both theories are derived from the same research

domain, but emphasize different perspectives on exchange relationships, the combined utilization of these theories is assumed to form a consistent, solid theoretical foundation for the investigation on the *conceptual dimensions*, *relational consequences* and *financial contributions* of recovery management in business-to-business markets.

4 Qualitative investigation on recovery management in business markets

The qualitative investigation conducted in the fourth chapter is intended to develop a profound understanding of the nature of recovery management in business-to-business markets and derive insights on the conceptual dimensions of recovery in this specific market context (cf. figure 4.1).

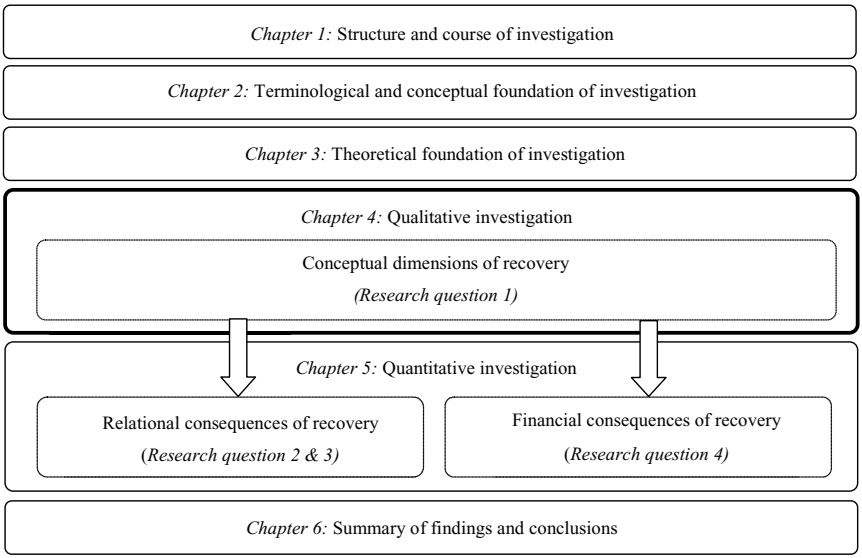


Figure 4.1: Positioning of the fourth chapter into the course of investigation
Source: own illustration

Due to the lack of a general conceptual framework of recovery management for business markets, a profound qualitative investigation has been conducted to identify the fundamental dimensions of recovery management that are specifically related to the business-to-business context. The qualitative investigation in this chapter is structured into the following paragraphs. First, the *structure of investigation* is introduced to provide an overview on the course of the qualitative investigation (paragraph 4.1). Subsequently, the *methodological foundation of the investigation* is presented to reflect the methodology used for the collection and analysis of the qualitative data (paragraph 4.2). In the next paragraph, the *findings from qualitative data analysis* are introduced to reflect the insights derived from the qualitative investigation (paragraph 4.3). Finally, the *conceptual dimensions of recovery management* are presented to derive the results from the qualitative data analysis (paragraph 4.4).

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_4, © Springer Fachmedien Wiesbaden 2014

4.1 Structure of qualitative investigation

Due to the specific characteristics of business-to-business markets (cf. paragraph 2.1.1.2) and the lack of comprehensive investigations on recovery management in a business market context, a profound qualitative study has been conducted to develop a more detailed understanding of the conceptual dimensions of recovery management in business-to-business markets. The structure of the qualitative investigation was based on an iterative process of data collection and analysis in the field of business-to-business markets (cf. figure 4.2).

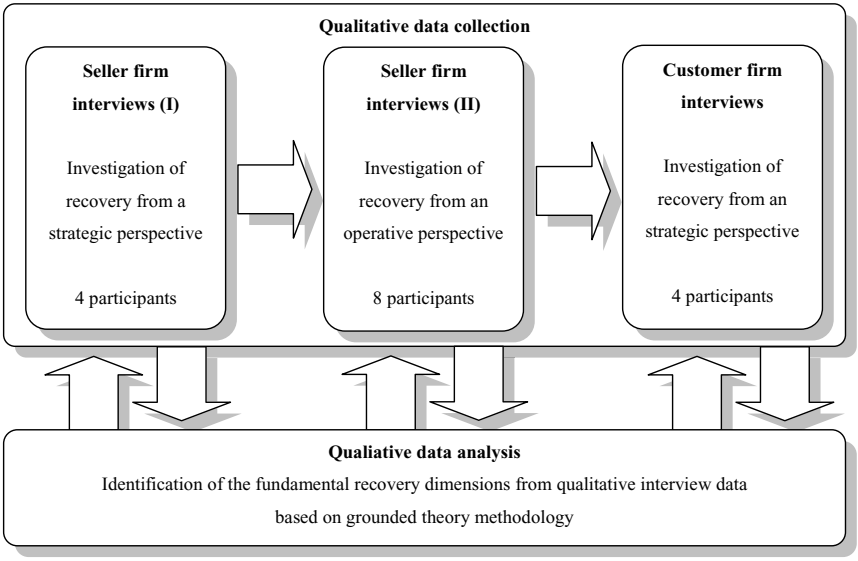


Figure 4.2: Structure of qualitative investigation
Source: own illustration

In the first step, four qualitative interviews were conducted with participants from a seller firm in business-to-business markets to attain an understanding of recovery from a strategic perspective. Based on the insights derived from these interviews in a first analysis of the data, the second step comprised additional eight qualitative interviews with participants from the same seller firm to develop an understanding of recovery from an operational perspective. The knowledge derived from these interviews in the subsequent qualitative data analysis was used to prepare for the customer interviews. In the third step, four qualitative interviews with participants from associated customer firms were conducted to comprehend recovery from a customer perspective. On the basis of this iterative process, a fundamental understanding of recovery in business markets was developed.

4.2 Methodological foundation of qualitative investigation

In general, recovery research is specifically challenging since recovery activities are based on failure situations, which are difficult to reconstruct for systematic empirical studies (Smith and Bolton 1998, p. 69). Prior research has suggested that qualitative methods should be applied in investigations on recovery as a useful means to develop further knowledge in recovery research (Colgate and Norris 2001, p. 221). In particular, qualitative studies on recovery have proven to provide valuable information for an understanding of recovery in a business-to-business context (Durvasula, Lysonski and Metha 2000, p. 439). Since only limited empirical findings on recovery management in business markets have been derived by recovery literature, a qualitative research approach was required to explore and structure the current state of knowledge on recovery in business-to-business markets. The *grounded theory methodology* (e.g., Glaser and Strauss 1967; Strauss and Corbin 1990) has been selected as a methodological foundation for the qualitative investigation since it provides a holistic approach on the systematic collection and analysis of qualitative data (Charmaz 2002, p. 675). More specifically, Goulding (2002) noted that "[u]sually researchers adopt grounded theory when the topic of interest has been relatively ignored in the literature or has been given only superficial attention. Consequently, the researcher's mission is to build his/her own theory from the ground" (p. 55). Since contemporary recovery research reflects a significant lack of insights on recovery management in business markets, a recovery management framework for business-to-business markets had to be developed "from the ground". According to prior research, grounded theory has been explicitly recommended for qualitative research in business-to-business markets (e.g., Gummesson 2000; Narayandas and Kasturi Rangan 2004; Wagner, Lukassen and Mahlendorf 2010). For the development of a conceptual framework on recovery management in business markets, the grounded theory methodology has been considered as the most adequate approach to guide and structure the collection and analysis of qualitative data for the investigation.

4.2.1 Methodology of qualitative data collection

For the present thesis, qualitative interviews were selected as the most appropriate method of investigation to retrieve detailed information on the infant field of recovery management in a business market context. This notion is supported by the observations of Johnston and Fern (1999), who argued that "[t]icking boxes would not be able to capture customer's views and would have limited the recovery ingredients (…), whereas other recovery activities may emerge from a free response style of questioning" (p. 75). Qualitative researchers have increasingly referred to *expert interviews* as a more specific type of qualitative interviews (Gläser and Laudel 2004, p. 41). More specifically, expert interviews are related to interviews with members of an organization with a certain functional background and specific knowledge, which should be used for the sampling of individuals when insights from institutional contexts are to be developed (Flick 2007c, p. 215). To attain a profound understanding

of the nature of recovery management in business markets, a series of qualitative interviews with senior managers of major industrial firms in Germany were conducted.

4.2.1.1 Collection of qualitative data

The *collection of qualitative data* refers to the identification and selection of adequate respondents for the gathering of qualitative data for the investigation (e.g., Flick 2007a; Kvale 1996, 2007a, 2007b). The collection process for the qualitative study was divided into two consecutive phases. To integrate perspectives of both sides of dyadic relationships into the investigation, the qualitative interviews were conducted with seller firm and customer firm employees.

In the *first phase*, one large industrial firm in Germany was selected to investigate the conceptual dimensions of recovery management in business-to-business markets from a seller firm perspective. This specific seller firm was selected because it comprises several business divisions, which operate in different business-to-business industries and across several countries. To gain a strategic perspective on recovery management, the first set of interview participants (i.e. four senior managers) were recruited from corporate functions such as quality, warranty, sales and legal departments. To get an operational perspective on recovery management, the second set of interview participants (i.e. eight senior managers) were sourced from functional areas with frequent customer interactions on failure situations and recovery activities. To allow for a certain degree of variance in their perspectives, the interview participants were selected from four different customer teams in order to represent four independent customer relationships.

In the *second phase*, four customer firms associated with the seller firm were selected to represent the customer perspective. These specific customer firms were selected because they represent a major share of the seller firm's business. To explore the conceptual dimensions of recovery management from a customer perspective, a third set of interview participants (i.e. four senior managers) was again selected from the seller firm to understand the specificities of the customer perspective. Since prior interview participants were already involved in and committed to the research project, four interview participants from the respective customer teams of the seller firm were asked to participate in another interview session. To gain an unbiased understanding of the nature of recovery management from a customer perspective, a fourth set of interview participants (i.e. four senior managers) was recruited from four customer firms. To ensure a sufficient level of credibility, each of these participants reflected long-term experience in the relationship with the seller firm.

The structure of the qualitative interviews was intended to represent both sides of a dyadic relationship in business markets and consisted of twelve *respondents of the seller firm* (RS00 – RS11) and four *respondents of the customer firms* (RM01 – RM04). A dyadic structure of the qualitative investigation has been considered as important to gain a holistic understanding of recovery management within buyer-seller relationships in a business-to-business market context. Accordingly, the structure of the qualitative interviews is illustrated by figure 4.3.

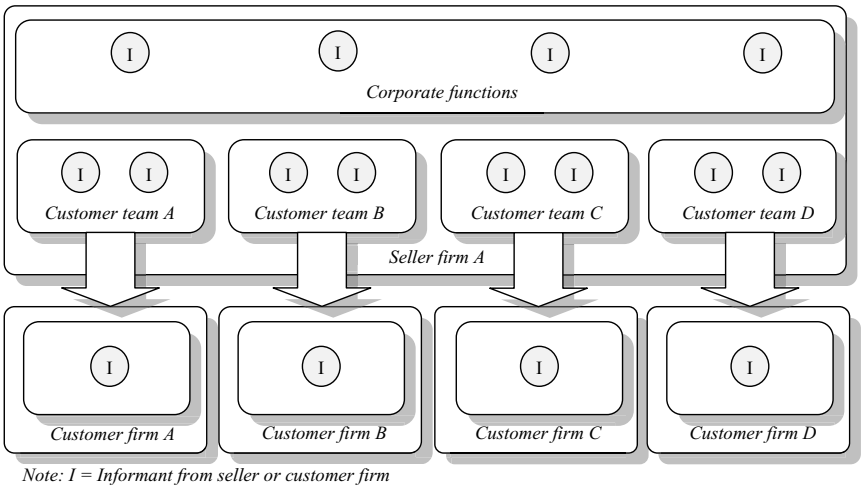


Figure 4.3: Structure of qualitative interviews

Source: own illustration

In consistency with grounded theory, a *theoretical sampling* approach was applied. In particular, theoretical sampling relates to the process of data collection where the researcher makes iterative decisions on the collection of data to develop the relevant categories of the emerging theory (Glaser and Strauss 1967, p. 45). The theoretical sampling process is driven by theoretical considerations where informants are chosen on the basis of conceptual considerations rather than representativeness (Miles and Huberman 1994, p. 29). Based on this procedure, the researcher will continue seeking more empirical data for a specific category until no new information can be derived and the category is "saturated" (Charmaz 2002, p. 689). Due to the recursive nature of the grounded theory method, new aspects of the phenomenon emerge as more interviews are conducted and a greater understanding of the phenomenon develops. The theoretical sampling decisions are determined by missing pieces of data to derive conclusions and saturate concepts (Charmaz 2006, p. 26). More specifically, Charmaz (2002) noted that "[o]ne useful way for the researcher to check leads and to refine an analysis is to go back and ask earlier participants about new areas as these are uncovered" (p. 682). When it became

apparent that the way of handling failure situations by the seller firm reflects a significant impact on buyer-seller relationships, a selection of earlier respondents (i.e. RS04, RS06, RS08 and RS10) was interviewed again to derive more information on this aspect. According to grounded theory, sampling decisions are continuously taken during the research process on the basis of the insights derived from prior data collection and analysis. Therefore, Flick (2007a, p. 26) mentioned that the goal of theoretical sampling is to identify the most developed information sources related to the research object, which is typically represented by individuals with sufficient experience in the area under study. Consequently, Corbin and Strauss (2008) argued that "[t]he purpose of theoretical sampling is to collect data from places, people, and events that will maximize opportunities to develop concepts in terms of their properties and dimensions, uncover variations, and identify relationships between concepts" (p. 143). Based on grounded theory, the iterative process of data collection and analysis is continued until a point of *theoretical saturation* is reached (Corbin and Strauss 2008, p. 145). In particular, theoretical saturation is achieved when the researcher is confident that all relevant information has been collected from the interviews and verified its comprehension with the most reliable and competent interviewees (Johnson 2002, p. 113). In the present investigation, theoretical saturation was achieved after the completion of the twentieth interview as no new concepts have emerged from the interviews (cf. figure 4.4).

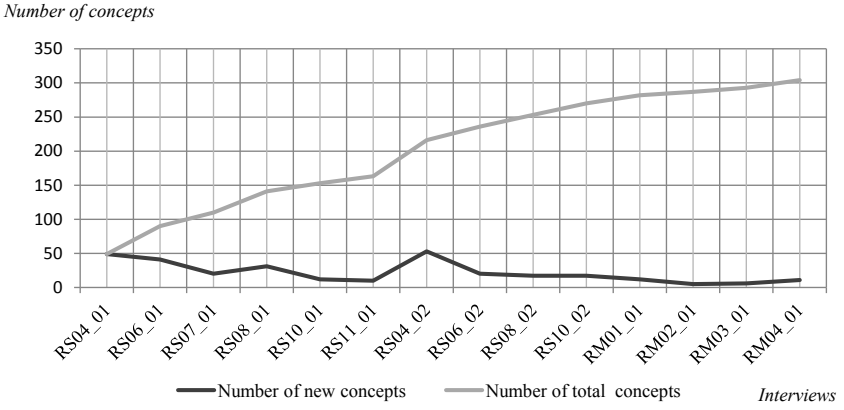


Figure 4.4: Theoretical saturation of qualitative interviews
Source: own illustration

Based on the achievement of theoretical saturation, qualitative data collection was completed and the data derived from the interviews was used as the foundation for the qualitative data analysis.

4.2.1.2 Structure of qualitative data collection

As recommended by qualitative research literature (Kvale 2007a, p. 51), a *semi-structured interview guide* was used to structure the interaction between interviewer and respondent during the qualitative interviews. An interview guide differs from a structured questionnaire in the sense that it does not impose the order, content or answers of questions and is based on the condition that all topics are discussed during the interview (Brenner, Brown and Canter 1985, p. 152). Consistent with prior qualitative research (Charmaz 2002, p. 680), a certain overlap was designed into the interview questions to allow the interviewer to return to earlier aspects and collect more information on these aspects. Throughout the qualitative interviews, the term "failure handling" was used to describe the research topic since the term "recovery" was mostly unknown to the interview participants. To verify the completeness and comprehensibility of the interview guide to address the research problem, a draft was pretested with members of the target audience.

The *interview guide for seller firms* started with an explanation of the background of the investigation followed by the central questions, which were structured into four sections. In the first section, the participants were asked to describe the failure handling process in their organization from their perspective. The second section contained questions on the expectations regarding the failure handling process from a customer perspective. In the third section, participants were asked to describe the requirements for an effective failure handling process. In the fourth section, participants were asked to summarize the central success factors for effective failure handling. Subsequent to the central questions, the participants were asked to state their own professional background and were informed about the procedures to ensure confidentiality of the data derived from the interviews.

The *interview guide for customer firms* began with an explanation of the reasons, targets and benefits of the investigation. The introduction was followed by the main questions, which again consisted of four sections. In the first section, the participants were asked to describe the failure handling process in their organization from their perspective. The second section was related to the expectations on the failure handling process from a customer perspective. In the third section, the participants were asked to describe the implementation of this failure handling process across the range of their seller firms. In the fourth section, the participants were asked to reflect upon the fundamental success factors for an effective failure handling. Subsequently, the participants were asked to disclose their own professional background and were instructed on the procedures to ensure confidentiality of the data derived from the qualitative interviews.

The *duration of the qualitative interviews* differed significantly across participants. While the shortest interview lasted for *67.45 minutes*, the longest interview continued for *187.13 minutes*. The average length of the qualitative interviews for this investigation was *113.11 minutes* (cf. table 4.1).

Interview	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Respondent	RS00	RS01	RS02	RS03	RS04	RS05	RS06	RS07	RS08	RS09
Duration (minutes)	72.25	109.23	124.21	103.38	132.41	107.38	107.38	81.14	187.13	134.28
Interview	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Respondent	RS10	RS11	RS04	RS06	RS08	RS10	RM01	RM02	RM03	RM04
Duration (minutes)	134.28	180.01	138.44	82.26	136.38	124.45	75.45	85.57	67.45	79.06
Average duration (minutes)					113.11					

Table 4.1: Duration of qualitative interviews
Source: own illustration

The *confidentiality of qualitative interviews* poses a significant problem since it affects the answering behavior of respondents during the interviews (Corbin and Strauss 2008, pp. 31-32). This problem was found to be specifically apparent when sensitive issues are discussed (Flick 2007c, p. 218). Since the management of recovery activities (i.e. the handling of product or service failures) certainly represents a sensitive topic on which firms generally are not willing to discuss openly, several measures were taken to ensure an open, non-biased answering behavior of the participants. As suggested by qualitative literature (Lofland et al. 2006, p. 51), the anonymity of firms, persons, places, products, regions and cases has been guaranteed to the participants by replacing them with pseudonyms. As a consequence, a written agreement on the confidentiality and use of the information obtained from the interviews was completed with each of the interview participants.

4.2.1.3 Characteristics of qualitative data

To retrieve secured information on recovery from the qualitative interviews, it was required that the participants reflect a sufficient level of professional experience. Therefore, only senior managers of the seller firms and customer firms were recruited for the qualitative interviews. In particular, the average professional experience was 11.92 years among the participants from the seller firm and 21.75 years among the participants from the customer firms (cf. table 4.2).

Synonym	*Firm*	*Position*	*Age*	*Tasks*	*Experience*	*Relationship*
RS00	Supplier A	Senior Consultant Contract Management	43	Coordination & consultation of contract-related issues	Several years contract management	No specific
RS01	Supplier A	Director Warranty Management	48	Coordination & consultation of warranty-related issues	8 years corporate warranty management 5 years operative warranty management	No specific
RS02	Supplier A	Director Quality Management	48	Coordination & consultation of quality-related issues	8 years corporate quality management 12 years technical development	No specific
RS03	Supplier A	Director Legal Management	47	Coordination & consultation of quality / warranty-related issues	20 years corporate legal management	No specific
RS04	Supplier A	Director Quality & Warranty for customer A	47	Prevention & settlement of warranty claims; negotiation of quality & warranty contracts	10 years operative warranty management	Customer A
RS05	Supplier A	Director Sales & Marketing for customer C	45	Coordination of sales & marketing activities, general contract negotiations	15 years operative sales management	Customer C
RS06	Supplier A	Director Quality & Warranty for customer C	45	Prevention & settlement of warranty claims; negotiation of quality & warranty contracts	3 years operative warranty management	Customer C
RS07	Supplier A	Director Sales & Marketing for customer B	48	Coordination of sales & marketing activities, general contract negotiations	18 years operative sales management Several years development & application	Customer B
RS08	Supplier A	Director Quality & Warranty for customer B	47	Prevention & settlement of warranty claims; negotiation of quality & warranty contracts	8 years operative warranty management 8 years operative quality management	Customer B

RS09	Supplier A	Director Sales & Marketing for customer D	39	Coordination of sales & marketing activities, general contract negotiations	4 years of operative sales management Several years in sales management	Customer D
RS10	Supplier A	Director Quality & Warranty for customer D	49	Prevention & settlement of warranty claims; negotiation of quality & warranty contracts	4 years of operative warranty management Several years in sales management	Customer D
RS11	Supplier A	Director Sales & Marketing for customer A	43	Coordination of sales & marketing activities, general contract negotiations	15 years in operative sales management	Customer A
RM01	Customer B	Vice president Quality Purchasing Parts at customer B	58	Coordination of quality performance measures & supplier quality evaluations	21 years in operative quality management 10 years in strategic quality management	Customer B
RM02	Customer C	Director Quality Purchasing Parts at customer C	58	Coordination of failure analysis, failure resolution & supplier evaluations	30 years in operative quality management	Customer C
RM03	Customer D	Vice president Quality & Claims Management at customer D	61	Coordination of quality & claims management worldwide	2 years in strategic claims management 9 years in strategic quality management	Customer D
RM04	Customer A	Director Technical Support at customer A	52	Coordination of technical support for supplier firms & quality improvement	15 years in operative quality management	Customer A

Table 4.2: Professional background of interview participants

Source: own illustration

4.2.1.4 Transcription of qualitative data

The *transcription of interviews* allows for a detailed analysis of the qualitative data (Kvale 1996, p. 160). More specifically, Kvale (1996) argued that the *transcripts of interviews* represent "artificial constructions from an oral to a written mode of communication. Every transcription from one context to another involves a series of judgments and decisions" (p. 163). The transcription of qualitative interviews represents a common approach to make qualitative data available for analysis (Poland 2002, p. 629). In particular, Johnson (2002, p. 112) argued that it is of fundamental importance that interviews are being tape-recorded to attain a precise documentation of the interview since the verbatim records of the interview represent a solid foundation for the subsequent qualitative data analysis. Recent research reflected that no viable alternative exists to the complete transcription of qualitative interviews (Gläser and Laudel 2004, p. 188) since it ensures a precise reproduction of the verbal information given during the interview (Roulston, DeMarrais and Lewis 2007, p. 19). In line with prior suggestions, all qualitative interviews were audio-recorded and transcribed verbatim.

The *transcription quality* may be facilitated by the definition of a clear, consistent set of instructions related to the transcription process (Kvale 1996, pp. 163-164). The analysis of transcription quality has been established as a standard procedure among qualitative researchers as a pre-condition for qualitative data analysis (Poland 2002, p. 630). Due to the interpretive nature of transcription process, different interpretations may arise from the same interview (Poland 2002, p. 634). As suggested by literature (Goulding 2002, p. 72), the transcripts were sent to a selected number of participants to receive feedback on the accuracy of information derived from the interview. Since Poland (2002, pp. 633-634) noted that respondents may be surprised or irritated when they are confronted with the transcripts of their interviews, these transcripts were provided with explanations on the transcription process and the rules to translate verbal language into written text.

Since no generally accepted rules exist for the transcription of interviews, researchers have been encouraged to develop their own rules and apply these rules consistently (Gläser and Laudel 2004, p. 180). For this investigation the transcription rules suggested by Kuckartz (2007a, pp. 41-46) have been applied. For the verbatim transcription of the interviews, the software package *f 4* was used (Kuckartz 2007a, p. 38). As suggested by Flick (2007c, p. 380), the definition of explicit transcription rules, the comparison of the transcripts with the audio-taped interview material and the anonymization (i.e. names, places, products) of the interview material has been conducted.

4.2.2 Methodology of qualitative data analysis

Due the complexity and the extent of qualitative data, it deems difficult to identify specific patterns in the data (Kuckartz 2007a, p. 227). To be able to derive relevant insights from qualitative data, Corbin and Strauss (2008) suggested that qualitative data analysis requires "an intuitive sense of what is going on in the data; trust in the self and the research process; and the ability to remain creative, flexible, and true to the data all at the same time" (p. 16).

According to the principles of the grounded theory methodology, the theory development process is based on the interaction between *inductive procedures* (i.e. development of concepts and dimensions from data) and *deductive procedures* (i.e. development of hypotheses from concepts) in the course of the qualitative data analysis (Corbin and Strauss 2008, p. 56). In particular, Corbin and Strauss (2008) noted *qualitative data analysis* represents "a process of generating, developing, and verifying concepts – a process that builds over time and with the acquisition of data. One derives concepts from the first pieces of data – either expanding concepts by adding new properties and dimensions, or, if there are new ideas in the data, adding new concepts to the lists of concepts" (p. 57). Therefore, the theory development process represents a complex procedure, which leads to a theoretical framework comprising a developed set of categories and corresponding relationships.

Due to the methodological controversy between Glaser and Strauss, two distinct theoretical paths of grounded theory methodology have emerged in qualitative literature. Based on the fact that several authors failed to consider the methodological disagreements between Glaser and Strauss, recent research has called for the specification, which approach of grounded theory methodology has been applied (Wagner, Lukassen and Mahlendorf 2010, p. 6). The major difference between the grounded theory concepts of Glaser and Strauss may be found in the approach how to deal with theoretical knowledge and theoretical concepts. More specifically, Glaser (1992) insisted on theoretically independent coding procedures as an appropriate basis for the empirically grounded development of theories. In contrast to the Glaser approach, Strauss and Corbin (1990) suggested the definition of a theoretical frame for the investigation on the basis of the *coding paradigm*. Based on this approach, researchers are allowed to apply existing theoretical knowledge to structure and curtail the qualitative data analysis (Kelle 2007, pp. 44-45). In particular, Kelle (2007, p. 47) suggested that the negligence of existing theoretical knowledge is inadequate for empirical social research and novice theories must not be developed solely from empirical data, but require a connection with existing theoretical knowledge. Strauss and Corbin (1990, p. 42) used the concept of *theoretical sensitivity* to reflect upon theoretical concepts beyond the empirical data and develop a connection with existing theoretical concepts. Nevertheless, researchers were supposed to consider only literature, which is directly associated with the field of investigation to prevent the intrusion of theoretical presumptions into the research process (Goulding 2002, p. 71). While the original ap-

proach developed by Glaser and Strauss provided a rather pragmatic approach to the analysis of complex social relationships, the advanced approach developed by Strauss and Corbin (1990) provided more specific coding procedures and therefore restricts the autonomy of the researcher in conducting qualitative data analysis (Wagner, Lukassen and Mahlendorf 2010, p. 9). In consistency with prior research (e.g., Goulding 2002), the Strauss and Corbin approach has been considered in this investigation to be able to reflect upon existing theoretical knowledge from contemporary recovery research.

4.2.2.1 Coding of qualitative data

Based on the coding techniques defined by the grounded theory methodology, the qualitative interviews have been analyzed based on a *multiple step coding process* to systematically derive insights from the qualitative data (Goulding 2002, p. 75). The *process of coding* refers to the development of conceptual categories, definition of their characteristics and their integration into an overall theory (Glaser and Strauss 1967, p. 105), while the coding procedure represents the fundamental process by which theories are developed from the empirical data (Corbin and Strauss 1990, p. 3). More specifically, coding has been defined as "the analytic process through which data is fractured, conceptualized and integrated to form theory" (Corbin and Strauss 1990, p. 3). Therefore, *codes* can be considered as virtual labels, which assign conceptual meaning to information (i.e. words, phrases, sentences) derived from qualitative data collection (Miles and Huberman 1994, p. 56). The use of systematic coding procedures has been considered as specifically valuable for working with complex conceptual constructs, which are common in the context of business-to-business markets (Gummesson 2000, p. 1). In general, *coding* involves the identification of the relevant sections in the data and the subsequent analysis resulting in the classification and naming of the data (Flick 2007a, p. 101). The concept of *theoretical coding* has been developed a research strategy for grounded theory, which is centered on the development of concepts and categories for theory development (Corbin and Strauss 2008, pp. 159-228). While the original concept of theoretical coding based on grounded theory represented a solely inductive approach with the negligence of existing theories, it has been further developed to integrate different elements of traditional research concepts and explicitly consider existing theories (Kuckartz 2007a, p. 72). More specifically, the coding procedures related to grounded theory have been differentiated into *open coding*, *axial coding* and *selective coding* (e.g., Flick 2007c; Goulding 2002; Kuckartz 2007a).

- *Open coding* initiates the research process where the empirical data is thoroughly reviewed, initial codes are assigned to text segments and preliminary concepts are developed (Kuckartz 2007a, pp. 73-74). During the process of open coding, the interview text is reviewed line by line to identify key words or segments, which are related to the research object (Goulding 2002, p. 76). In this coding process, *conceptual codes* (i.e.

based on theoretical categories) or *in-vivo-codes* (i.e. based on interview statements) may be used. As a result of the open coding process, a list of codes and categories is established, which is further accompanied by notes and memos reflecting the fundamental thoughts for theory development (Flick 2007c, p. 392).

- *Axial coding* refers to the development of relationships between the categories, which have been developed during open coding (Kuckartz 2007a, p. 76). The grounded theory methodology developed the *coding paradigm,* which consists of the dimensions *conditions*, *context*, *handling*, *interactional strategies* and *consequences* to reconstruct categories through axial coding (Strauss and Corbin 1990, p. 75). Therefore, axial coding comprises the stipulation of relationships between categories and the delineation of a specific core category and therefore reaches a higher level of abstraction (Goulding 2002, p. 78). Hence, axial coding serves to discover the identified theoretical concepts in further detail by developing the dimensions of its characteristics and the relationships with other relevant categories (Flick 2007c, p. 393).
- *Selective coding* continues the coding procedure on a higher level of abstraction (Flick 2007c, pp. 396-397). More specifically, selective coding involves the selection of the core category, the development of the relationship between the core category and other categories and the further refinement of existing categories (Strauss and Corbin 1990, p. 94). In this phase, profound, theoretical concepts are being developed, which represent a theory on the typical behavior of actors in the related field (Kuckartz 2007a, p. 76). Therefore, selective coding aims to develop core categories, which are integrated into a larger framework consisting of other categories (Flick 2007c, pp. 396-397). In consistency with qualitative data collection, the interpretative process is discontinued when theoretical saturation is achieved and no new insights are derived by further coding.

The analysis of qualitative data is facilitated by the development of *qualitative data analysis (QDA)* software packages (e.g., Kuckartz 2007a, 2007b; Seale 2002). The use of QDA software ensures a faster and more efficient administration, handling and illustration of data and its relationships with codes or memos (Weitzmann 2000, p. 807). The utilization of QDA software is assumed to enhance the quality of qualitative research and its illustration and documentation (Seale 2002, p. 668). Nevertheless, QDA software does not represent a method of analysis, but only facilitates the execution of qualitative data analysis (Flick 2007c, p. 471). Since computer-based analysis of qualitative data is based on the interpretation and coding by the individual researcher, qualitative data based on intellectual coding represents much more resistant material than qualitative data based on automated coding procedures (Kuckartz 2007a, p. 57). Therefore, Kuckartz (2007a, p. 19) noted that the use of QDA software results in additional reliability and validity of the qualitative data due to the possibility to verify results on the basis of memos, coded segments and category systems. In the present investiga-

tion, the QDA software *MAXQDA 2007* was used for the qualitative data analysis based on the methodological steps for QDA analysis as suggested by Kuckartz (2007a, pp. 20-24).

4.2.2.2 Evaluation criteria for qualitative data

Since qualitative research is based on words and text rather than facts and figures, the reliability and validity of findings derived from qualitative data requires different evaluation criteria than quantitative data. Hence, Corbin and Strauss (2008) pointed out that "[q]uality in qualitative research is something that we recognize when we see it; however, explaining what it is or how to achieve it is much more difficult" (p. 297). Based on qualitative research literature, several evaluation criteria have been developed to verify the quality in the collection and analysis of qualitative data. Nevertheless, recent research reflects that criteria for the assessment of quality in qualitative research are limited and the existing ones are controversially discussed in the qualitative research discipline (Flick 2007b, p. 42). To verify the quality of qualitative data collection and analysis process, the following evaluation criteria have been considered.

- The *selection of interview participants* was considered as the first step to ensure quality in qualitative research prior to the qualitative interviews. Whenever expert knowledge is required for an investigation, the type of expertise has to be defined and the individuals reflecting this expertise (i.e. position, function) are to be identified for the sampling process (Flick 2007b, p. 30). To ensure a sufficient level of quality, only senior managers with a sufficient level of knowledge on failure handling were identified and recruited for the qualitative investigation. Since the average work experience of the interview participants in their specific field of expertise was 15.75 years, a sufficient level of expertise of the participants is assumed.
- The *standardization of interviews* represents an effective measure to prevent methodological errors during the qualitative interviews. For semi-structured interviews, an interview guide is recommended to pose the same set of questions to all interview participants and to maintain the same conditions across interviews (Flick 2007b, p. 42). Since the interviews were based on a semi-structured interview guide, a sufficient level of consistency across the interviews is presumed.
- The *tape-recording of interviews* is a fundamental measure to ascertain quality during the qualitative interviews. The most common approach to verify the quality of the data collection process is the tape-recording of interviews by the interviewer, which allows for a detailed analysis of the interaction between the interviewer and the respondent (Brenner, Brown and Canter 1985, pp. 33-34). Since all qualitative interviews conducted have been audio-recorded and digitized, a detailed reproduction and verification of the interviews is ensured.

- The *transcription of interviews* characterizes an essential measure to assure quality of the qualitative interviews. The transcription depicts a process of interpretation where oral language is translated into written language (Kvale 2007b, p. 92). As the quality of the data collection largely determines the quality of the data analysis, the transcription of the interviews facilitates a detailed analysis of the qualitative data. Since all of the interviews were transcribed verbatim and verified by the researcher, a sufficient level of quality is assumed.
- The *coding of interviews* has been considered as a fundamental measure to ensure quality of the qualitative data analysis. As suggested by prior research, the objectivity of the coding results is improved if the data set is independently coded by a second researcher and discrepancies are mutually discussed and resolved (Miles and Huberman 1994, p. 64). To confirm that the coding process has not been biased by subjectivity, qualitative research suggested to assess the *intercoder reliability* of the coded categories (Kuckartz 2007a, p. 147). The *kappa* coefficient (Cohen 1960, pp. 39-40) evaluates the proportional agreement of judgments under consideration of agreement by chance. *Cohen's Kappa (κ)* has been defined as

$$\kappa = \frac{\mathcal{P}_0 - \mathcal{P}_c}{1 - \mathcal{P}_c}$$

where $\mathcal{P}_0$ represents the number of agreed judgments by both judges and $\mathcal{P}_c$ relates to the number of judgments expected by chance. In general, intercoder agreement measures below .60 may be considered as a lack of agreement, values between .60 and .69 may be interpreted as evidence for weak agreement, values between .70 and .79 signal a moderate agreement and values above .80 a strong agreement (Brown and Hauenstein 2005, p. 178). As recommended by literature, two researchers independently coded the interview transcripts based on a profound set of coding instructions. Subsequently, the number of agreements and disagreements were recorded to calculate the *intercoder reliability*. In the case of a disagreement, the perceived differences were mutually resolved in discussion by the refinement or correction of the definition of the respective categories. The findings of the intercoder reliability based on Cohen's κ for the three selected interviews (κ_1 = .846; κ_2 = .761; κ_3 = .817) reflect an adequate level of intercoder reliability considering the complexity and sensitivity of the research topic.
- The *reliability of qualitative research* is determined by the consistency and the trustworthiness of findings, which have emerged from the qualitative data analysis. The *reliability* in qualitative research refers to whether the findings are reproducible under similar conditions (Kvale 2007b, p. 122). More specifically, Silverman (2005, pp. 209-226) argued that reliability may be attained by the tabulation of categories and the tran-

scription of qualitative interviews. Due to the profound transcription of the interviews and the presentation of the derived categories, a sufficient level of reliability is assumed.

The *validity in qualitative research* relates to the degree to which a method measures what it is supposed to measure to derive legitimate empirical knowledge and is more difficult to assess than evaluating its reliability (Kvale 2007b, p. 122). In particular, *communicative validity* represents an approach to verify the interpretation of qualitative data on the basis of a conversation with the respective community (Kvale 2007b, p. 125). Accordingly, Flick (2007b, p. 66) suggested that researchers may verify the validity of its interpretations in a dialogue with prior *interview participants* (i.e. member validation) or *scholars* (i.e. peer validation) from the related research field.

- The *verification with interview participants* signifies a measure to guarantee quality subsequent to the qualitative interviews. The validation of findings with interview participants represents a fundamental strategy for the verification of findings and is consistent with grounded theory methodology (Goulding 2002, p. 89). For this investigation, the fundamental insights derived from the qualitative interviews were discussed with six interview participants to verify and substantiate the conclusions. Since the feedback received from these sessions reflected a high degree of consistency with the conclusions, an appropriate level of validity is assumed.
- The *verification with researchers* denotes a measure to ensure quality subsequent to the qualitative interviews. To verify the validity of findings with the respective research community, the findings of this investigation were presented and discussed on the *European Marketing Academy Conference 2011*. The feedback received from the review board of the conference as well as the conference participants reflected the high relevance of the research topic and a significant contribution of the findings to the recovery research domain.

Nevertheless, recent research argued that *validity* may be an inappropriate measure for quality in qualitative research (e.g., Corbin and Strauss 2008; Charmaz 2006). In particular, Corbin and Strauss (2008) argued that quantitative evaluation criteria may not be applied in qualitative research and therefore suggested the term *credibility* as the most relevant quality criterion, which reflects whether the "findings are trustworthy and believable in that they reflect participants', researchers' and readers' experiences with a phenomenon" (p. 302). Similarly, Wagner, Lukassen and Mahlendorf (2010) defined credibility as the fundamental quality criterion for grounded theory where findings are required to be "credible, understandable and relevant to the participants in the research" (p. 8). With respect to the confirmation of the relevance of the theoretical concepts derived from the qualitative interviews by the interview respondents, an adequate level of credibility of the findings is presumed.

4.3 Findings from qualitative data analysis

As recommended by qualitative research literature (Goulding 2002, p. 166), the most fundamental findings that emerged from the qualitative data analysis have been summarized and are presented in the following paragraphs. To exemplify these findings, the citations are taken directly from the qualitative interviews and brought into the context of the investigation (Kuckartz 2007a, p. 212). The empirical contributions of the qualitative interviews have been further differentiated into the *nature of failures* (paragraph 4.3.1), the *nature of recovery* (paragraph 4.3.2), the *dimensions of recovery* (paragraph 4.3.3) and the *consequences of recovery* (paragraph 4.3.4).

4.3.1 The nature of failures in business-to-business markets

For the effective management of recovery activities in business markets, it is important to understand the nature of failure situations from a seller as well as from a customer perspective.

In general, failure situations were perceived to have occurred when the contractually agreed characteristics of the product or service have not been met by the seller firm. As stated by *RM01,* customer firms generally expect that the products or services reflect the previously defined characteristics:

> *Yes, it is a matter of fact that we have ordered OK products from our supplier. This means that in the moment where a contract comes into effect for a supply, we assume that the supplies that reach us are free from defects.*

The attribution of responsibility for a failure situation has been described as difficult throughout the qualitative interviews. Since it remains difficult to assess whether a failure can be attributed to the supplier firm, the customer firm or a third party, firms increasingly define and check the characteristics of the product or service to be developed, produced or delivered to avoid ambiguous evaluations of product or service performance by the involved firms. Accordingly, *RS11* has mentioned:

> *When a thing fails, it is analyzed absolutely precise if the component is according to specification. Yes or no.*

The effects of product or service failures on the customer firm have been discussed extensively throughout the interviews. In particular, two fundamentally distinct effects of failures have been identified. First, a *direct effect of failures* on the operations of the customer firm has been identified, where failures derogate into the production process and result in additional costs and efforts for the customer firm. Therefore, *RM04* noted that these failures tie the resources of the customer firm:

Recently, I had a significant disruption at location U and when you consider how much of our working time (..) went into this disruption (...) then such kind of disruptions are considerable for the binding of resources.

Second, an *indirect effect of failures* on the customer firm has been identified. Accordingly, failure situations reflect negatively upon the image of the customer firm if these failures become known in the market place. *RS10* argued that failures damage the image of the customer firms:

I mean that the loss of reputation is owned by the manufacturer E. (...) As said, you as a consumer do only see the manufacturer E and not the supplier, who is behind it. (...) It does not matter for you why the product F from supplier C or from supplier A does not work.

During the interviews, it was confirmed by the participants that product or service failures significantly reflect upon the relationship between seller and customer firms and, thus, need to be resolved quickly. As stated by *RS04,* in severe failure situations, the relationship may be terminated by the customer firm when failures are not resolved adequately by the seller firm:

So, and then the [disruption] needs to be disposed of once and for all. Otherwise the issue will escalate and when it has escalated long enough, it cannot be recaptured. And this may lead then to the termination of the business relationship.

Several interview participants noted the effects of failures on the financial situation of the seller firm. More specifically, *RS04* has noted that failure situations may lead to financial consequences, which are in disparity with turnover or profit of the related products or services with the customer.

This means for me that, in any case, it gets significantly more expensive than the turnover I have created with this single product. This means neither turnover nor profit of the single product are in proportion to the costs related to this failure.

The significant impact of failures on the financial performance of the seller firm was found to exert a substantial amount of pressure on seller firms in business markets. Accordingly, *RS08* has noted that the costs related to failure situations represent a direct loss of profitability to the seller firms:

Because this, what accrues as costs, it is a supplier A, the effect, clearly, that is in principle pure profit. (...) Thus, you impact through the costs the profit. Directly. (...) That is not like as if you turn the cost spiral and the manufacturing costs. So, what you safe or spend here is profit.

In conclusion, it was identified that product or service failures in business markets have a substantial impact on the relationships with customer firms and the financial performance of the seller firm. Therefore, it is essential for seller firms to develop effective recovery strategies to mitigate the negative effects of failures on customer relationships and the financial situation.

4.3.2 The nature of recovery in business-to-business markets

To develop effective recovery strategies for business-to-business markets, it is important to understand the nature of recovery and the respective expectations of customers in this market context.

According to the respondents, it is important to generate a mutual understanding of the characteristics of the product or service and the procedures when these characteristics have not been realized. As explained by *RS11,* the properties of the product or service and the handling of failures related to these properties are generally defined in contractual agreements between customer and seller firms:

> *The customer knows what he can expect. We know what we have to deliver. Both sides know who is entitled to claim for what for how long. (...) How to proceed in the case that the assured properties have not been met. (...) Therefore, it is an essential element of the business relationship. (...) It is on the one hand the clear arrangement and then also the professional execution.*

Although improvements in the handling of failure situations have been achieved in the recent years, the average performance of seller firms in the handling of product or service failures still remains below customer expectations. Accordingly, *RM02* reflected that a more proactive attitude by seller firms towards the handling of failure situations is required, but missing in business practice:

> *Thus, also the supplier firm A has undertaken considerable internal efforts (...), which is reflected by the significant quality improvements of our products. Nevertheless, these procedural issues are still lumbering and idle and an inner attitude to proactively save our customer from these failures (...) is not always as developed as what I would imagine.*

Since customer firms increasingly hold less knowledge on the products or services used in their products or services, the participants have reflected that the competencies for the identification and the analysis of failures largely remain with the seller firms. Accordingly, *RM01* noted that this dependency largely results from the complexity of the products or services of the seller firms:

> *There are certain core processes, which we as the manufacturer M develop ourselves and where we are also very intensively involved and other processes are just hundred percent*

with the supplier. Therefore, it makes little sense when we would start running alone because we would hopelessly get lost und that is why the expertise of the supplier is required in place.

In conclusion, the current level of recovery performance in business practice has reached an acceptable level, but certainly remains below customer expectations. Since customer firms in business markets are increasingly dependent on their seller firms to identify and analyze failure situations, seller firms are required to improve the effectiveness of their recovery activities. A more profound understanding of the relevant recovery dimensions for business markets is therefore desirable.

4.3.3 The measures of recovery in business-to-business markets

To identify the most relevant recovery dimensions for business markets, the qualitative interviews focused on the fundamental recovery measures as perceived by seller and customer firms. Derived from the qualitative data analysis, the recovery measures reflected in the course of the interviews have been assorted by the dimensions *recovery process*, *recovery outcome* and *recovery interaction*.

4.3.3.1 The recovery process

Several participants have stressed the importance of the *recovery process* for the effectiveness of failure handling between the seller and the customer firm. Accordingly, *RS08* has argued that a well-defined, systematic process for the handling of failure situations is required to prevent the negative effects of failures on the business relationship between the seller and the customer firm:

The role of the business relationships would be certainly, again, that one can process (...) disagreeable issues, which can strain it, let's put it this way, in a controlled manner and therefore not disturb the business relationship through these things. (...) One can quite well because that are always annoying things one can positively influence the business relationship, right?

The *prevention of failures* has been mentioned during the interviews as the initial step in the recovery process since it makes further recovery activities of the seller firm unnecessary. As explained by *RS04*, the prevention of failure situations from occurring requires the consideration of potential failure situations already in the development process of products and services:

But I need to consider as a supplier today that I actually know what the product will cost when it fails before the first line has been made on the drawing (...). This means that I

have to also know exactly what my product technically is able to achieve (...) and that I exercise due care to develop my product accordingly.

The *identification of failures* has been frequently noted in the course of the qualitative interviews, where failures have been identified by the use of databases, which are intended to store and analyze prior, current and new failure reports from customers. Accordingly, *RS08* explained that the seller firm uses access to customer databases, which support the detection and analysis of failures:

We download the data from manufacturer B, worldwide. We use a couple of software programs to sort and we say to them that is in this case so (...) that we say, 'We have, you have a problem in region F.' (...) And when I do this promptly, I see, 'Ok, something is happening here. We have a product problem (...) and we need to correct. From development, from application.'

The *notification of failures* has been suggested by the participants, either from seller firm to customer firm (i.e. *supplier notification*) or from customer firm to seller firm (i.e. *customer notification*). With respect to *supplier notification*, *RS10* has noted that the seller firm proactively informs the customer firm about a failure, which is often the case for hardly detectable failures:

Sometimes, as said, are these so called self-denunciations where we ascertain: 'Ups, we have now supplied a batch, there is,' I do not know, 'something wrong with it.' (...) When we are fortunate, these are still in the customer warehouse, when we are less fortunate, these are already build into products and when we are unfortunate, the products have been already supplied. But this is rather rare.

Regarding *customer notification*, *RM04* noted that product or service failures are often identified in the course of the production process of the customer firm, where customer firm employees then report the failure situation to the seller firm through a standardized notification process:

The worker sees this and this happens very often, that he says, that he graps into the box and sees: 'What is this? This is different than those before and, in addition, this one here has a small scratch and the scratch is always at the same spot.' (...) Then, automatically, it will be rejected.

The *response on failures* by the seller firm has been extensively discussed during the interviews. Therefore, *RM01* has argued that it is essential to immediately react to the failure situation and initiate instant recovery activities in order to limit the damage from the failure and reduce failure costs:

The faster a supplier can react, the faster he can resolve the failure, takes his process, the better it is certainly for him as well. First of all from the cost side. You need to imagine when you produce four thousand products a day (…) and you wait ten days, then you have forty thousand products with the same failure still outside. (…) Thus, speed, through the speed of the failure resolution process you can save very, very much money.

The qualitative interviews also reflected that the *analysis of failures* represents a fundamental step in the recovery process. More specifically, *RM01* suggested that a profound and qualified analysis is important to identify the root cause of the failure and to develop effective counter measures:

Thus, important is for me in the end that the supplier has conducted a very precise and detailed analysis. In individual cases, we try to mutually define the analysis procedures. (…) Thus, the quality of the analysis is decisive for me. It is the expectation, which we have towards the supplier, is the quality of the analysis.

The *tracking of failures* constitutes the concluding step in the recovery process, which is intended to identify whether the failure has been sustainably resolved and to reinstate the recovery process if failure resolution has not been successful. More specifically, *RS08* has noted that the seller firm extensively tracks their failures as a means to improve their product or service quality:

And now we talk about what we are able to improve. We as supplier A causally. (…) And this one we track ourselves separately. So, we make a cut there.

Based on the qualitative interviews, it gets apparent that the recovery process attains a fundamental role for the effectiveness of the recovery activities from a seller and a customer perspective. In particular, the mitigation of the damages caused by the failure, the reduction of the failure costs and the prevention of the (re-)occurrence of failures were considered as decisive fundamentals of recovery.

4.3.3.2 The recovery outcome

Beyond the procedural dimension of recovery, several interview participants stressed the importance of the outcome of the recovery activities and noted that the result of the recovery encounter largely determines the customer perceptions of recovery.

The *improvement of future products or services and processes* based on the insights gained from prior failure situations has been considered as a fundamental determinant of effective recovery. Accordingly, *RS04* has stated that seller firms need to leverage knowledge from previous failure situations to improve the quality of their products or services and, thus, reduce their future failure costs:

When I know that things happen outside and there are circumstances, which my product, which my product cannot withstand, I need to specifically improve it thereon. (..) This means when I succeed gaining these insights promptly, I can improve quality and reduce costs.

The *resolution of failures* has been considered as the primary responsibility of the supplier firm. In particular, *RS04* has noted that customers generally accept the occurrence of a failure situation, but do not tolerate the re-occurrence of the same product or service failure:

This means, the customer has, from a market perspective, a very strong interest to reduce these failures. (...) Not successful is always the repetition of the same failure. (...) As long as you make failures and you learn from them, it is accepted and desired. As soon as you make the same failure twice and do not learn from it, it is annoying. And when you make it a third time, then the image starts to suffer.

However, the ultimate resolution of the product or service failure may be at times difficult to achieve when the root cause of the failure remains uncertain. As argued by *RM01*, in these situations, a collaborative analysis and resolution by the seller and customer firm is required:

But there are also cases where, yes, the customer failure is not found. (...) In this case, it has to be clarified how the problem can be mutually resolved. This means, normally the supplier finds out that it is not caused by the individual component but it needs to be found somewhere in the interaction with the product (..) and it needs to be attempted to find a mutual solution for it.

The *compensation of failure*s has generally emerged as a dominant theme throughout the qualitative interviews. In particular, the participants have noted that the compensation of customers for product or service failures is common practice in business markets. Accordingly, *RS04* noted that compensation is generally expected by and contractually agreed with customers and therefore compensation beyond the contractually agreed level may not yield additional customer goodwill:

When you give this, then he will nod but will not evaluate it as specifically accommodating because he has considered it in his contractual terms or his conditions of purchasing anyway. (...) But he will not honor it when I give him more than he demands.

Nevertheless, the participants reflected that compensation attains a central, but not the primary role for failure situations in business markets. Accordingly, *RS04* explained that in specific failure situations the failure resolution attains more attention by customers than the failure compensation:

In the first phase, compensation is usually not the issue. (...) What really counts is finding the root cause, remedy of the problem, implementation of interim measures. No matter what it costs. (...) And this always receives very high popularity, this issue and then it is initially related really to the solution and the resolution of the problem. (...) And the clearing of the stock and then certainly, in the second step, also about the money, the payment of the firm.

Overall, the qualitative interviews reflected that the outcome of the recovery encounter largely impacts the effectiveness of the recovery activities by the seller firm. Specifically, the sustainable resolution of the failure situation and the improvement of the seller firm offerings based on the failure situation have been acknowledged as fundamental elements of recovery by the interviewees.

4.3.3.3 The recovery interaction

The *interaction* between seller and customer firm employees during the recovery encounter has emerged as a fundamental dimension of the recovery activities by the seller firm.

The *initiative of seller firm employees* was mentioned as an important element of recovery throughout the qualitative interviews. More specifically, *RS10* has stressed the importance of an open and proactive communication channel between the seller and the customer employees:

And then also the communication, the direct connection between the worker at the manufacturer E and the worker or quality manager at supplier A. (...) They need to understand each other and need to exchange information with each other. (...) Quick communication, open communication. So, we already had cases where we really messed things up and we have caused a lot of trouble for manufacturer D. (...) But it has been proclaimed by manufacturer D as a success story because we have informed him proactively.

The relevance of the initiative of seller firm employees in the failure situation has been also confirmed from a customer perspective. Accordingly, *RM02* noted that customer firms generally expect the initiative of seller firm employees in the specific failure situation:

I see the concrete task that we are not the only drivers but that the supplier firm has a very detailed documentation: 'Now they have sent us already hundred and fifty products M within three months (...) and we have sent back thirty percent of the parts. I cannot find anything.' (...) That he makes proposals, how it can be eliminated very quickly. (...) And does not say: 'manufacturer E, please do,' but he has a really massive role, an active role to handle the issue proactively. (...) May be also to make proposals, how it can be found with a different solution.

The *rapport of seller firm employees* has been considered as an important element of recovery during the qualitative interviews. In particular, *RS08* mentioned that the early development of personal relationships between seller firm and customer firm employees raises the effectiveness of recovery:

> *If you have defined a good relationship, you can handle things differently (...) than if you neutrally coexist and do not have a business relationship, right? (...) And, yes, if you then with fair, if you find a way to develop contact with individuals having the same job on the other side, (...) then you can establish a quite good relationship. Through this channel, you can solve a lot.*

The *commitment of seller firm employees* was reflected to determine the effectiveness of the recovery encounter. Accordingly, *RS08* noted that seller firm employees are required to be committed to support customers in failure situations, even if the failure is not explicitly related to the seller firm:

> *And even if this is a hundred percent customer problem, he needs to help him regardless of the situation. So, he needs to help him at least to bring some light in the dark, what the actual problem is. Thus, it is a question of attitude how you handle your customers.*

The relevance of commitment has been confirmed from a customer perspective as well. More specifically, *RM03* noted that customer firms expect the pronounced intention of seller firm employees to actively engage in the recovery process to quickly resolve the failure situation:

> *I do expect within the agreed processes more willingness to cooperate and identify and resolve failures. (...) These individuals are at least as good as our people, may be even better. Also in a large quantity. But these are not always involved when the customer has a problem.*

The *reliability of seller firm employees* during the recovery encounter has been considered as essential for the effectiveness of recovery during the qualitative interviews. Accordingly, *RM02* noted that the reliability of the seller firm is determined by a frank and honest collaboration:

> *Not searching for any loopholes how I can steal off (...), that I do not have financial consequences. Open and honest cooperation.*

Similarly, *RM03* noted that customer firms expect reliable information from the seller firm as exemplified by the open dialog with respect to failure situations by the seller firm:

The first thing is frankness. (…) This means that generally or very often suppliers know already in the production process that there are some deviations. (…) Yes, the point always is that the issue needs to be treated openly.

The *courtesy of seller firm employees* has been raised throughout the qualitative interviews as a fundamental element of effective recovery. Accordingly, *RS06* noted that a courteous treatment of customers during failure and recovery situations is essential for an effective recovery encounter:

Well, I would say, all of what you generally expect in business life. Fairly, politely, friendly, honestly. Is there anything more enjoyable than being treated in an appreciative way? (…) But I would say that the treatment attains an elevated role.

The qualitative interviews conveyed that the interaction between customer and seller firm employees during the recovery encounter largely determines the effectiveness of the recovery. More specifically, the initial communication and the interpersonal treatment by seller firm employees during the recovery encounter have been considered as critical elements of recovery by the participants.

4.3.4 The consequences of recovery in business-to-business markets

Besides the exploration of the fundamental dimensions of recovery, the interviews further reflected upon the specific consequences of effective recovery in the context of business-to-business markets.

The qualitative interviews conveyed that satisfactory recovery encounters reflect positively on the *relationship between customer and supplier firm*. Accordingly, *RS10* explained that customer firms appreciate an effective recovery encounter by the seller firm, which positively reflects upon the business relationship between the customer firm and the seller firm:

At manufacturer E, you are praised because you have reported the failure quickly (…). Thus, it has a positive impact on the business relationship. (…) Frankness is simply acknowledged and, as I said, everybody knows, you cannot make an omlette without breaking eggs. (…) However, do not hide but be cooperative, it facilitates the partnership, I would say. (…) This creates trust. This is good. Right, this creates trust.

Furthermore, the interviews reflected that effective recovery exerts a positive effect on the *purchase behavior of customer firms*. *RS10* noted that based on effective recovery, satisfied customer firms will sustain long-term relationships despite occasional failure situations:

With the manufacturer D [we have] hundred percent share of wallet. We cause trouble, we cause a lot of costs for him, we cause a loss of reputation in the market outside for him (...) and he is still a hundred percent customer over years.

The qualitative interviews also suggested that effective recovery reflects positively upon the *customer firms' willingness to pay* for the products or services of the seller firm. Accordingly, *RS08* has noted that a reputation for effective recovery may be able to partially compensate for cost disadvantages of seller firms in the course of sourcing decisions:

And this is also, again, a small point in the business relationship to say: 'Ok, we now buy at the cheap Jack somewhere for a couple of cents less and we have a crisis and we stand alone in the rain. (...) Or we buy at someone, who is weather-beaten, maybe we pay two cents more, the product is also good and we receive then also (...) this supplier A service.'

Similarly, *RM02* also confirmed from a customer perspective that an effective recovery leads to a higher willingness to pay based on the higher value of the offerings perceived by the customer firm:

Yes, certainly. I would when we are sitting with purchasing and talk about the supplier evaluation, I would say: 'And dear buyer, even if he is two cents more expensive, please give the next order to him.' As a quality manager, I can say: 'Very good relationship.'

Finally, the qualitative interviews conveyed that an effective recovery attains a positive impact on the profitability of the seller and the customer firm. Accordingly, *RS10* argued that an effective recovery reduces the overall failure costs of the seller firm as well as the customer firm:

So, you help the customer, but you also help yourself. (...) By, yes, the faster I resolve something, the less it costs for me in the end. (...) We certainly have self-interest at it. (...) Both parties, indeed.

In a similar direction, *RM01* noted that an effective recovery by the seller firm reduces the failure costs of seller and customer firms likewise, which creates mutual benefits for the relationship:

Our expectations as technicians, naturally, are that when we promise quality from my side, that we certainly try to resolve the failure quickly because the longer the failure drags along somewhere, the more money it costs in the end for both firms. (...) It is more economical, that it is directly said where the failure is, how the failure can be resolved and what can be done to conclude the whole issue. (...) That would be the most economical issue.

The qualitative interviews reflected that effective recovery generally exerts a positive impact on the relationship between the customer firm and the seller firm. In particular, the interviews revealed that the effective recovery of failure situations by the seller firm reflects positively upon the trust in the seller firm, the repurchase behavior of the customer firm, the willingness to pay of the customer firm and, ultimately, the profitability of the seller and customer firm as the most *fundamental consequences of recovery* in business markets.

4.4 The conceptual dimensions of recovery management

Based on the findings derived from the qualitative investigation, the *conceptual dimensions of recovery management in business-to-business markets* have been developed. These fundamental dimensions have been structured into three dimensions *recovery process*, *recovery outcome* and *recovery interaction* and two perspectives *proactive recovery* and *reactive recovery* to constitute a holistic conceptual framework for recovery management in business-to-business markets.

4.4.1 The recovery process dimension

The *recovery process* dimension relates to the procedures of the recovery encounter, which the seller firm has implemented to handle product or service failure situations. The *quality of recovery process (QRP)* reflects the extent to which seller firms have defined procedures for the failure handling process towards customers. Based on the qualitative interviews, it has been distinguished into a *proactive recovery process* and a *reactive recovery process* perspective.

The *proactive recovery process (PRP)* refers to recovery activities of the seller firm before a product or service failure has been discovered by the customer. The proactive recovery process implies that the seller firm initiates recovery activities before customers have become aware of the failure situation. More specifically, the proactive recovery process is based on the following activities:

- *Failure prevention*: The prevention of failures comprises all activities to anticipate and prevent the occurrence of product or service failures for customers. These activities may involve the request of feedback from customers on the performance of the product or service, the consultation and training of customers on the correct usage of the product or service and the monitoring of the performance of the product or service in the field.
- *Failure identification*: The identification of failures relates to all actions to seek for and identify failures of products or services towards customers. These actions may embrace the surveillance of products or services in the market place and the analysis of the performance of products or services from the customer perspective.

- *Failure notification:* The notification of failures refers to all activities to inform their customers on failures of their products or services. These actions may involve the informal or informal notification of the failure as well as further information on the scope, reason or occurrence of the failure and the actions taken to limit the consequences of the failure situation.

The *reactive recovery process (RRP)* relates to the recovery activities of the seller firm after a product or service failure has been discovered by the customer. Therefore, the reactive recovery process implies that the seller firm conducts recovery activities after customers have become aware of the failure situation. The reactive recovery process is based on the following activities:

- *Failure response*: The response on failures involves all activities to respond to the occurrence of product or service failures towards their customers. These actions may comprise taking notice of the failure, requesting further information from the customer, informing other parties about the failure and initiating activities to resolve the failure situation for the customer.
- *Failure analysis*: The analysis of failures relates to all activities to evaluate the product or service failure to identify the root cause of the failure situation. These activities may comprehend the assessment of failure-related information, the examination of the product or service itself and the questioning of the customer.
- *Failure controlling*: The controlling of failures refers to all efforts to monitor the resolution of current and previous product or service failures. These actions may include the documentation of failure costs, the development of statistics on failures by type or frequency and the examination of the final resolution of failures.

4.4.2 The recovery outcome dimension

The *recovery outcome* dimension refers to the result of the recovery encounter, which the seller firm has determined to handle product or service failure situations. The *quality of recovery outcome (QRO)* reflects the extent to which seller firms have defined the outcome of the failure handling process with customers. Based on the qualitative interviews, the recovery outcome dimension has been differentiated into a *proactive recovery outcome* and a *reactive recovery outcome* perspective.

The *proactive recovery outcome (PRO)* refers to the recovery activities of the seller firm directed at future product or service failures. More specifically, the proactive recovery outcome is aimed at the handling of future failure situations and is based on the following activities:

- *Failure reduction*: The reduction of failures comprises all activities to decrease the likelihood of future product or service failures by the seller firm. These activities may include the improvement of products, services and processes to better meet customer expectations, requirements or skills based on insights obtained from the current failure situation.
- *Failure explanation*: The explanation of failures involves all efforts to reduce the likelihood of future product or service failures by the customer firm. These activities may constitute the explication of the reasons for the failure situation to the customer and the actions required to prevent the re-occurrence of the failure situation to adjust customer expectations, requirements and skills to the attainable performance level of products and services.

The *reactive recovery outcome (RRO)* refers to the recovery activities of the seller firm directed at current product or service failures. More specifically, the reactive recovery outcome is aimed at the handling of current failure situations and is based on the following activities:

- *Failure apology*: The apology for failures comprehends all efforts to acknowledge and excuse for the product or service failure to the customer. An apology may be provided in a verbal or in a written form to the customer to reflect regret for the failure situation.
- *Failure resolution:* The resolution of failures contains all activities of the seller firm to resolve the product or service failure towards the customer. The dissolution of the failure is related the restoration, exchange or repeated performance of the product or service.
- *Failure compensation:* The compensation of failures involves all actions of the seller firm to indemnify the customer for the damage caused by the failure situation. In particular, compensation is related to the provision of refunds, credits, vouchers or discounts to the customer.

4.4.3 The recovery interaction dimension

The *recovery interaction* dimension adverts to the interaction between seller and customer firm employees during the recovery encounter, which the seller firm has defined to handle product or service failures. The *quality of recovery interaction (QRI)* reflects the extent to which seller firms have defined the behavior of employees during the failure handling process towards customers. According to the qualitative interviews, the recovery interaction dimension has been distinguished into a *proactive recovery interaction* and a *reactive recovery interaction* perspective.

The *proactive recovery interaction (PRI)* relates to the recovery activities of seller firm employees to approach customers during product or service failures, is directed at the proactive exchange with customers and is formed by the following activities:

- *Employee rapport:* The rapport of employees considers all efforts to develop a personal relationship with customer firm employees before a failure situation has occurred. Therefore, rapport involves establishing contact or familiarity during daily work.
- *Employee initiative*: The initiative of employees comprehends all activities to initiate the recovery encounter with customer firm employees. In particular, the initiative includes initiating the encounter, bringing people together and developing an interaction on the failure situation.
- *Employee feedback*: The feedback of employees considers all actions to provide regular information on the failure situation. More specifically, feedback involves providing a regular update to customers on the status and the progress of the failure resolution.

The *reactive recovery interaction (RRI)* refers to the recovery efforts of seller firm employees to respond to customers during product or service failures. Therefore, it is related to the reactive exchange with customers and is based on the following activities:

- *Employee commitment:* The commitment of employees considers all activities to engage themselves in the failure handling process. In particular, commitment reflects the general attitude of employees to strongly contribute to the resolution of the failure situation.
- *Employee reliability:* The reliability of employees involves all efforts to provide reliable and open information on the failure situation to customers. Reliability may include the sharing of details on the cause and consequences of failure situations.
- *Employee courtesy:* The courtesy of employees comprises all behaviors to engage in a pleasant and courteous treatment of customers during the recovery encounter. Thus, courtesy may involve a friendly and obliging behavior towards the customer firm employees.

In conclusion, the qualitative interviews have created fundamental insights into the *conceptual dimensions of recovery management in business-to-business markets*. During the qualitative interviews, it has been confirmed that recovery management in business-to-business markets constitutes a complex, multi-dimensional concept, which needs to be understood by seller firms to ensure an effective recovery of product or service failures. To integrate the characteristics of recovery management in business markets, the conceptual *recovery management framework* has been developed, which consists of three fundamental dimensions – *recovery process*, *recovery outcome* and *recovery interaction* – and two distinct perspectives – *proactive recovery* and *reactive recovery* (cf. figure 4.5). On the basis of this framework, six *fields*

of action have been derived, which may be used by seller firms to structure their recovery activities. The recovery management framework represents the conceptual foundation for the subsequent quantitative investigation on the *relational consequences* and the *financial consequences* of recovery management in business-to-business markets.

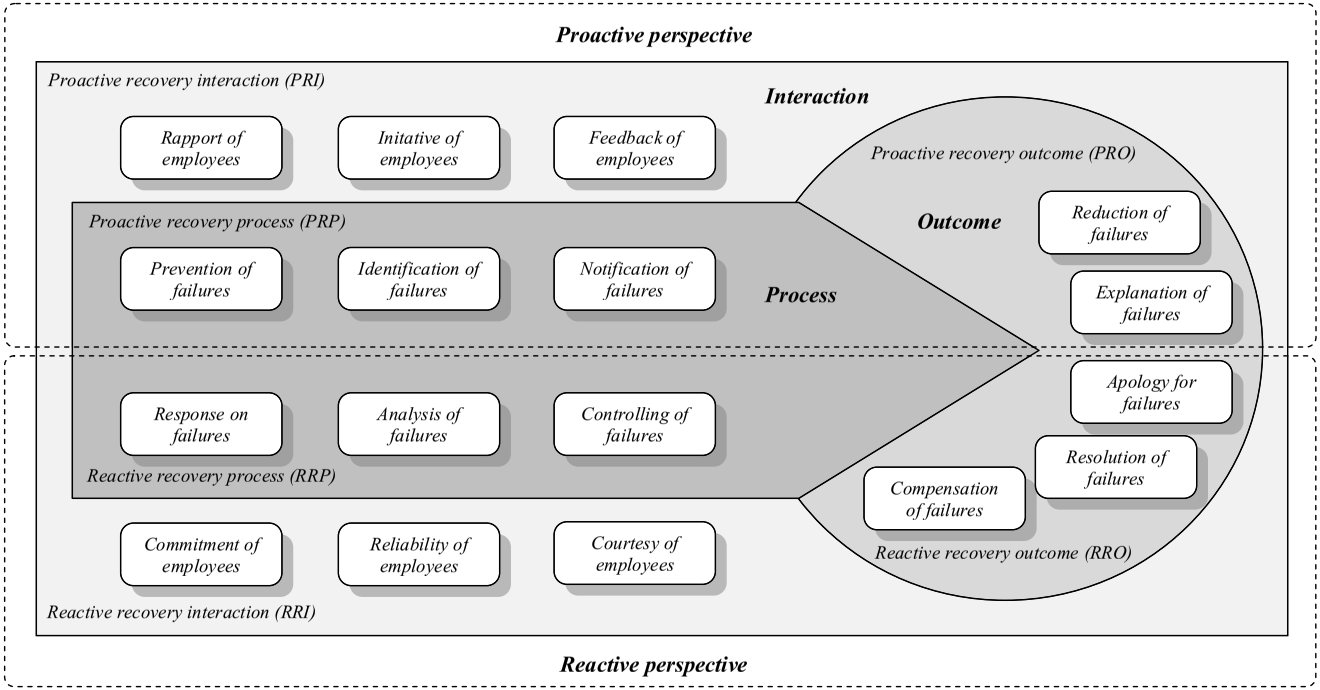


Figure 4.5: Conceptual framework of recovery management for business markets

Source: own illustration

5 Quantitative investigation on recovery management in business markets

On the basis of the insights derived from the qualitative investigation, chapter five presents the quantitative investigation on recovery management in business-to-business markets. More specifically, the *relational consequences* and *financial consequences* of recovery management in business markets are examined in the course of a cross-sectional, quantitative investigation (cf. figure 5.1).

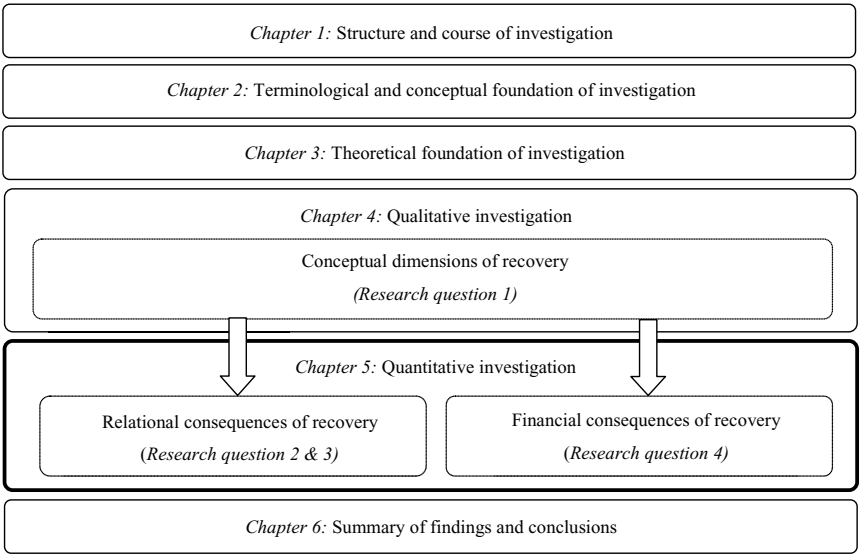


Figure 5.1: Positioning of the fifth chapter into the course of investigation
Source: own illustration

To understand the relational and financial consequences of recovery management in business markets, an extensive quantitative investigation has been conducted. The course of the quantitative investigation is structured into the following paragraphs. The *structure of quantitative investigation* is introduced to provide an overview on the configuration of the investigation (paragraph 5.1). The *methodological foundation of investigation* is then presented to explicate the methodology used for the collection and analysis of the quantitative data (paragraph 5.2). Subsequently, the recovery relationship model is developed and empirically assessed to identify the *relational consequences of recovery management* (paragraph 5.3). At last, the recovery management model is constructed and empirically verified to explore the *financial consequences of recovery management* (paragraph 5.4).

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_5, © Springer Fachmedien Wiesbaden 2014

5.1 Structure of quantitative investigation

The quantitative investigation was based on the *recovery management framework*, which has been developed in the course of the qualitative investigation (cf. paragraph 4.4). In particular, the quantitative investigation was intended to identify and evaluate the *relational consequences* as well as the *financial consequences* of recovery management in business-to-business markets (cf. figure 5.2).

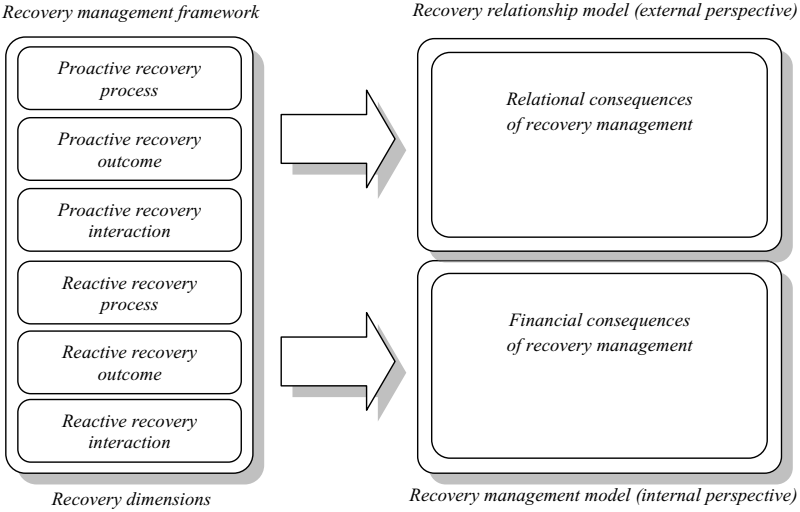


Figure 5.2: Structure of quantitative investigation

Source: own illustration

In the *recovery relationship model*, the relational consequences of recovery management have been assessed to identify the impact of the recovery dimensions on the relationships between seller firms and customer firms in business-to-business markets. The relational consequences of recovery are related to the business relationships of seller firms with their customers and, thus, reflect an *external perspective* on recovery management in business markets. In the *recovery management model*, the financial consequences of recovery management have been evaluated to discover the impact of the recovery dimensions on the financial performance of seller firms in business-to-business markets. The financial consequences of recovery refer to the financial situation of seller firms and therefore convey an *internal perspective* on recovery management in business markets. On the basis of these conceptual models, the consequences of recovery management have been analyzed from the *customer firm* (i.e. external) perspective and from the *seller firm* (i.e. internal) perspective.

5.2 Methodological foundation of quantitative investigation

To empirically assess the relational and financial consequences of recovery management in business markets, a comprehensive quantitative investigation in the business-to-business context has been conducted. To elucidate the methodological background of the quantitative investigation in further detail, the methodological background has been differentiated into the *methodology of quantitative data collection* (paragraph 5.2.1) and *methodology of quantitative data analysis* (paragraph 5.2.2).

5.2.1 Methodology of quantitative data collection

For the present investigation, a *survey-based research design* has been selected for several reasons. Prior studies have acknowledged the difficulties to develop a suitable methodology to reconstruct failure and recovery situations for empirical studies (e.g., Fang, Luo and Jiang 2013; Roggeveen, Tsiros and Grewal 2012; Smith, Bolton and Wagner 1999). More specifically, Smith, Bolton and Wagner (1999) noted that an investigation on recovery "is challenging because recovery is triggered by a service failure, making systematic empirical research difficult to conduct in either a laboratory or a field environment" (p. 356). Therefore, survey-based research designs are generally related to high expenses and time required to attain sufficient results due to low incidence rates (Smith and Bolton 1998, p. 69). However, survey-based research allows participants to project themselves into actual failure situations and reflect their actual feelings and beliefs (Wirtz and Mattila 2004, p. 163). In contrast, an experimental research design implies the risk that manipulations may not be able to adequately reflect reality (Chebat and Slusarczyk 2005, p. 666). In particular, survey-based research facilitates respondents to predict their own behavior in specific situations (Magnini et al. 2007, p. 221). Consequently, a survey-based research design related to realistic failure situations is assumed to increase the external validity of findings (Bonifield and Cole 2008, p. 574). To gain an understanding of the nature of recovery management in business markets, empirical investigations need to be based on actual failure situations to reflect upon authentic customer behavior. Accordingly, Weun, Beatty and Jones (2004) concluded that "surveying actual customers experiencing a service failure and recovery would provide a more realistic setting to test the hypotheses" (p. 141). Since the objective of the investigation was the identification of the relational and the financial consequences of recovery management in business-to-business markets under realistic conditions, a survey-based research approach has been considered as the most appropriate method for data collection. The methodology of the quantitative data collection has been structured into the *collection of quantitative data* (paragraph 5.2.1.1), the *structure of quantitative data collection* (paragraph 5.2.1.2) and the *evaluation criteria for quantitative data collection* (paragraph 5.2.1.3).

5.2.1.1 Collection of quantitative data

For the *collection of quantitative data*, the development of an appropriate sample of respondents was required to derive the desired insights from the target population. The gathering of quantitative data for this investigation was based on *three successive steps* of data collection (cf. figure 5.3). In the *first step*, seller firm employees were questioned on the characteristics of the recovery management implemented in their organization (i.e. seller firm survey). In the *second step*, customer firm employees were surveyed on the perceived quality of the relationship with the seller firm and their estimation on the continuation of the relationship (i.e. customer firm survey). In the *third step,* the financial key figures of seller firms were collected from two independent data sources for a period of four consecutive years (i.e. financial reports).

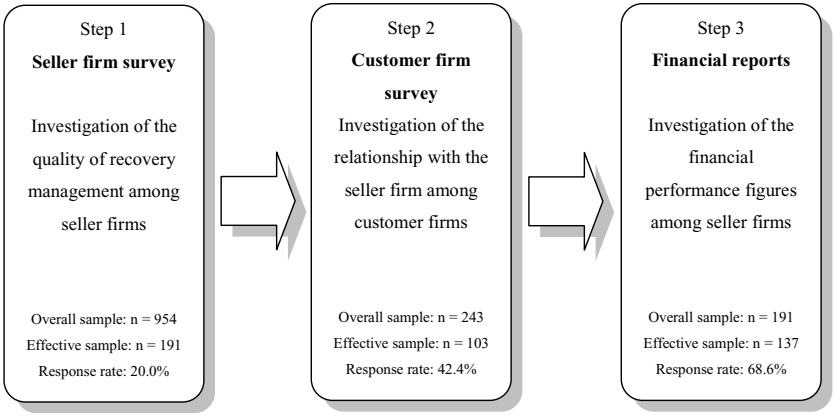


Figure 5.3: Structure of quantitative data collection
Source: own illustration

a.) The seller firm survey

In the *seller firm survey*, a selection of individuals from seller firms were questioned on the characteristics of the recovery dimensions implemented within their organizations. To gain reliable information on the configuration of recovery dimensions across industries, the seller firm respondents were asked about the measures their organization has implemented to handle product or service failures. This approach is consistent with prior studies, which have used seller firms as the primary source of information due to its ability to evaluate and reflect the complexity related to the development of recovery management systems (Smith, Karwan and Markland 2009, p. 167). The sampling process related to the seller firm survey consisted of *four consecutive steps* (cf. figure 5.4).

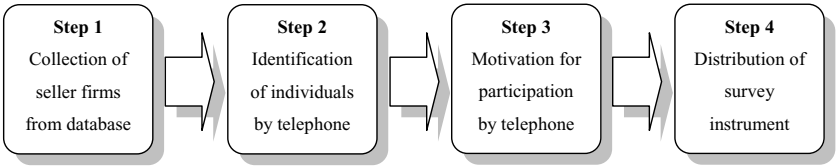


Figure 5.4: Sampling process for seller firm survey
Source: own illustration

- In the *first step*, potential seller firms were identified based on a *purposive sampling* approach where research subjects are selected based on specific characteristics (Homburg and Krohmer 2008, p. 40). The potential seller firms were selected from a database of industrial firms provided by a leading commercial information provider. For this investigation, the selection of seller firms was based on the criteria *annual turnover* (> 50 million Euro), *number of employees* (> 200 employees) and *industry association* (five largest business-to-business industries in Germany). Based on these criteria, 1560 seller firms were selected for the investigation.
- In the *second step*, each of the 1560 seller firms was initially contacted by telephone to identify the most knowledgeable individual with respect to the handling of product or service failures in the respective seller firms. When the identified individual was not immediately available, the name and contact details were recorded and up to five follow-up calls were made to establish a personal contact with the individual. When a direct contact with the individual was not achievable after the fifth follow-up call, the seller firm was deleted from the dataset.
- In the *third step*, the selected individual was introduced to the research project, familiarized with the background of recovery and motivated to participate in the study. A short introduction was required since few respondents were familiar with the term and concept of *recovery management*. As incentives for the participation, a customized report of the results and an anonymized benchmark analysis against the other firms in the study were offered. The individuals were asked on their preferences to receive the survey instrument (i.e. via e-mail or mail). Overall, representatives from 954 seller firms agreed to participate in the study and provided their contact details, while individuals from 606 seller firms informed that they will not participate due to different reasons (i.e. confidentiality, lack of time, lack of interest).
- In the *fourth step*, each individual received the survey instrument via mail or e-mail based on their individual preferences. While the *mail survey package* comprised the survey instrument accompanied by a personalized cover letter and a postage-paid return envelope, the *e-mail survey package* contained a personalized e-mail and the survey in-

strument as an attachment. Recent findings from quantitative research reflect that the results from respondents, who receive a questionnaire via e-mail do not to deviate significantly from those respondents, who have received a questionnaire by mail (Homburg and Krohmer 2008, p. 28). For those participants where no feedback was received until three weeks after the dispatch of the survey package, a reminder letter was issued with another copy of the survey instrument. After further three weeks without an answer, reminder telephone calls were made to verify if the survey instrument was received and questions on the survey remained.

From the 956 questionnaires distributed to seller firms, 210 completed surveys were returned, which constitutes an initial response rate of 22.0 percent. Nevertheless, 19 surveys were incomplete and, thus, were removed from the analysis, which resulted in 191 surveys available for the analysis; an effective response rate of 20.0 percent. Since the typical response rates of surveys in business-to-business markets only reach a low level (Dorsch, Swanson and Kelley 1998, p. 133), the response rates achieved in this study can be considered as satisfactory.

b.) The customer firm survey

In the second phase, a selection of individuals from *customer firms* was surveyed on their perception of a recent (i.e. less than 12 months) product or service failure situation and on their evaluation of the current and future status of the business relationship with the respective seller firm. The sampling process for the customer firm employees consisted of *four consecutive steps* (cf. figure 5.5).

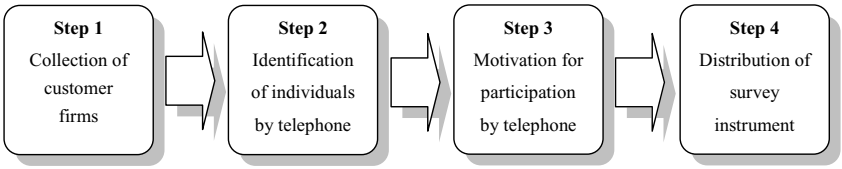


Figure 5.5: Sampling process for customer firm survey
Source: own illustration

- In the *first step*, the customer information provided in the course of the seller firm survey was linked to the specific seller firm and provided the foundation for the customer firm survey. On the basis of this information, more detailed information on the customer firm was derived from a commercial database to identify potential, knowledgeable respondents for the survey.

- In the *second step*, the customer firms suggested by the seller firms were initially contacted by telephone to identify and confirm the most knowledgeable individual on the business relationship with the respective seller firm. When this individual was not immediately available, the name and contact details were recorded and up to five follow-up calls were made to establish a direct contact.
- In the *third step*, the individual was introduced to the investigation and familiarized with the conceptual background of *recovery management*. As incentives, personalized reports of the study results and anonymized feedback to the respective seller firm were offered. The individual was further asked on his or her preferences to receive the survey instrument (i.e. via e-mail or mail). Respondents from 243 customer firms confirmed their participation and provided their contact details to receive the questionnaire.
- In the *fourth step*, individuals that provided his or her contact details received the survey instrument based on their individual preferences. While the *mail survey package* comprised the survey instrument accompanied by a personalized cover letter and a postage-paid return envelope, the *e-mail survey package* contained a personalized e-mail and the survey instrument as an attachment. In case of a missing feedback after three weeks, a follow-up telephone call was made to remind on the survey and ask for open questions.

From the 243 questionnaires distributed to the customer firms, 103 survey instruments were returned, which constitutes a response rate of 42.4 percent. Since all questionnaires from the customer survey were returned complete, no questionnaire had to be withdrawn from the analysis. With reference to contemporary literature (Homburg and Krohmer 2008, p. 38), this response rate can be considered as satisfactory. To generate a dyadic dataset for the investigation of the relationships between seller and customer firms, the datasets from the seller firm and the customer firm survey were matched by the *disaggregation approach* (Wieseke et al. 2008, p. 324). To retain a sufficiently large dyadic sample for the analysis, disaggregation represents the best alternative to multi-level analysis, which was infeasible due to the sample size of n = 103 in the customer firm study.

c.) The financial report data

For those *seller firms*, which have participated in the seller firm survey additional *financial data* was collected. The key financial figures regarding revenues, employees and profitability were collected from two independent commercial databases across a four-year time period between 2006 and 2009. Since buyer-seller relationships tend to evolve over time, a longitudinal approach for data collection was required to derive substantial information on development of such relationships (Narayandas and Kasturi Rangan 2004, p. 64). Based on the objective data sources derived for this investigation, key financial data on 137 seller firms were retained for further analysis.

5.2.1.2 Characteristics of quantitative data

In the preparation of the quantitative investigation, significant care was taken to develop a valid survey instrument since the structure and content of questionnaires significantly influences the answering behavior of respondents (Churchill and Iacobucci 2005, p. 314). To develop a coherent, adequate questionnaire for the investigation, the guidelines for the development of questionnaires recommended by quantitative research literature (Homburg and Krohmer 2008, pp. 48-49) were considered. Since the seller firm and customer firm survey were conducted in Germany, it was required to translate each survey instrument into the German language to avoid ambiguities or misinterpretations by participants and increase the incentive to participate in the survey. As recommended by literature (Craig and Douglas 2001, p. 85), the questionnaires were translated from the English into the German language by a professional translator and then translated back into the English language by an independent researcher to validate the equivalence of the translation. The comparison of the original and the re-translated version of the questionnaire did not yield major differences.

As suggested by marketing literature (e.g., Bolton 1993; Hunt, Sparkman and Wilcox 1982), profound *pretests* were conducted to ensure a purposive data collection. As argued by Hunt, Sparkman and Wilcox (1982), the proposed sample size for pretests is generally dependent on the questionnaire and the target audience where smaller pretest samples are suitable for more "sophisticated audiences" than for "unsophisticated" ones (p. 270). Since the targeted participants represented business professionals in seller and customer firms, each questionnaire was pre-tested with ten individuals from the respective target audience. For the pre-tests, members of the target audience for each survey were selected to investigate the comprehensibility and comprehensiveness of the questionnaire as well as to estimate the time required to complete the questionnaire. To reconstruct the cognitive processes of individuals and identify misinterpretations of questions, the *think-aloud method* was applied where the participant is requested to "think aloud" while completing the questionnaire (Hurrle and Kieser 2005, p. 593). After all, the feedback received from the respondents of the pretest resulted in minor changes in the phrasing and the structure of the questionnaire.

Subsequent to the quantitative investigation, the professional background of participants was evaluated. The respondents of the quantitative surveys represented rather homogeneous groups within the seller firm and customer firm surveys. More specifically, the characteristics of the survey participants may be differentiated into the characteristics *industry*, *function* and *experience*.

The characteristic *industry* relates to the industry association of the participants. In the *seller firm survey*, the largest number of participants was associated with the *machinery industry* (40.3 percent), followed by the *automotive industry* (13.6 percent), the *electronics/electrics*

industry (12.6 percent), the *chemical industry* (9.9 percent) and the *metal processing industry* (9.9 percent). The smallest number of participants was related to the *pharmaceutical industry* (5.2 percent) and the *retailing industry* (2.6 percent). In the *customer firm survey*, the largest number of participants was linked to the *automotive industry* (26.2 percent), followed by the *machinery industry* (25.2 percent), the *electronics/electrics industry* (7.8 percent) and the *retailing industry* (7.8 percent). The smallest number of participants was connected with the *chemical industry* (4.9 percent), the *pharmaceutical industry* (3.9 percent) and the *metal processing industry* (1.0 percent). These numbers reflect the particular interest of the automotive and the machinery industry on recovery management.

The characteristic *function* refers to the functional background of the participants. In the *seller firm survey*, the largest share of participants was derived from the *sales function* (51.3 percent), followed by the *marketing/product management function* (12.6 percent) and the *quality function* (11.0 percent). In the *customer firm survey*, the greatest share of participants was related to the *purchasing function* (45.6 percent), followed by the *quality function* (20.4 percent) and the *production function* (8.7 percent). These figures emphasize the relevance of recovery for the operative functional areas.

The characteristic *experience* reflects the professional experience of the participants. In the *seller firm survey*, the participants conveyed an average work experience in their *functional area* of about 10 years (M = 9.86; SD = 7.30) and in their *organization* of about 15 years (M = 14.80; SD = 9.62). In the *customer firm survey*, the participants reflected an average work experience in their *functional area* of about 12 years (M = 12.11; SD = 8.66) and in their *organization* of about 16 years (M = 16.21; SD = 9.93). Accordingly, both surveys were answered by experienced participants.

5.2.1.3 Evaluation criteria for quantitative data collection

To assess the quality of the quantitative data collection, several evaluation criteria have been developed in quantitative research literature. Prior research has argued that *method biases* represent a fundamental source of measurement error, which may significantly reduce the validity of findings (Podsakoff et al. 2003, p. 879). In particular, Podsakoff et al. (2003, p. 880) noted that method variance may substantially increase or decrease the relations between observed variables and, thus, result in misleading conclusions. The most common method biases discussed in research literature are represented by the *common method bias*, the *informant bias* and the *non-response bias*.

The *common method bias* denotes the flawed estimation of relationships between constructs due to the use of a single data source (Podsakoff et al. 2003, p. 881). It comprises all types of distortions in the covariance or variance structure of variables, which are related to the meas-

urement of dependent and independent variables from the same data source (Homburg, Schilke and Reimann 2009, p. 176). Although empirical evidence on the impact of the common method bias reflects varying results, these effects were found to be considerable (Podsakoff et al. 2003, p. 897). While some investigations convey that these distortions tend to be small (Harrison, McLaughlin and Coalter 1996, p. 257), other studies have argued that the response behavior of respondents may be significantly affected by implicit theories (Chandon, Morwitz and Reinartz 2005, p. 8). Nevertheless, Homburg and Klarmann (2009, p. 154) acknowledged that the *common-method bias* represents a frequently occurring phenomenon, which is determined by several contextual factors. To prevent a common method bias from occurring, Homburg and Klarmann (2006, p. 11) recommended to retrieve exogenous and endogenous variables from different data sources. The data collection for the quantitative investigation was conducted from three distinct sources (i.e. seller firms, customer firms, financial databases) to ensure independent, unbiased information from the most appropriate data sources.

The *informant bias* relates to problems with the use of single informants in organizational research (e.g., Bagozzi, Yi and Phillips 1991; Kumar, Stern and Anderson 1993; Phillips 1981). In general, Phillips (1981) argued that key informants are unlikely to be the "most reliable informant" (p. 412) with respect to all questions. The informant bias is related to the notion that informants enforce their personal perceptions regarding the phenomena during the investigation (Bagozzi, Yi and Phillips 1991, p. 421). In particular, Hurrle and Kieser (2005, p. 585) noted that the informant bias denotes the measurement error, which results from different motives, limited information processing capacities, different perceptions and information of informants. These distortions emerge from the specific position of the respondent within the organization or the intentions of the respondent for self-expression or self-defense (Hurrle and Kieser 2005, p. 588). Accordingly, a *key informant bias* results in distortions of the variance or covariance structure of the latent variables, which occur systematically when the survey questions are distortedly perceived by the key informants due to their specific position in the organization or nonsystematically when the key informants are incompetent to answer the survey questions (Klarmann 2008, p. 126). Nevertheless, Klarmann (2008, p. 144) argued that the negligence of survey research based on key informants cannot be justified. As suggested by prior research, information derived from key informants is generally suitable when complete information cannot be collected from multiple respondents (Kumar, Stern and Anderson 1993, p. 1635). Furthermore, Klarmann (2008, p. 154) suggested to validate key informant data with additional data on central variables. On the basis of the criteria developed by Homburg and Klarmann (2009, p. 152), the exposure of the present investigation to a key informant bias was considered as improbable. Since the quantitative investigation was related to the collection of *objective* information about the *organization* with respect to *actual occurrences*, which may be directly *influenced* the subjects, the risk of a *key informant bias* is con-

sidered as low in this investigation. The availability of individuals knowledgeable on the relationship, the involvement of participants in decision-making and the sensitivity of the research topic determined the use of key informants in the present investigation. To identify the risk of distortions resulting from a key informant bias, a *pretest* of the research instrument was suggested by methodological literature (e.g., Klarmann 2008; Homburg and Klarmann 2009). For the pre-testing of questionnaires for key informants, Hurrle and Kieser (2005, p. 593) suggested the *think-aloud methodology* for the identification of cognitive distortions and the prevention of the key informant bias. Accordingly, intensive pre-tests were conducted with participants from the target audiences to detect and eliminate opportunities for respondents to impose cognitively biased responses. In line with prior studies (e.g., Walter et al. 2003), the relationship quality dimensions were derived from key informants to gain an unbiased access to the most knowledgeable source. Despite its limitations, the key informant approach represents a common and accepted approach in the research of marketing (Walter et al. 2003, p. 166).

The *non-response bias* reflects a source of error based on the irregular answering behavior of respondents resulting in a limited representativeness of the sample. The non-response bias generally leads to distorted parameter estimates and standard errors (Dillman et al. 2002, p. 4). To evaluate the risk of a non-response bias, a standard test procedure has been employed, which contrasts early respondents from late respondents based on their sample properties (Armstrong and Overton 1977, p. 397). This *non-response test* is based on the assumption that late respondents reflect similar characteristics compared to non-respondents (Aaker, Kumar and Day 2003, pp. 390-391). For this test, the responses from the seller and customer firm survey were separated into early and late respondents based on return date of the questionnaire. A *chi-square difference test* was executed between these two groups based on several dimensions, which reflected no significant differences ($p < .05$) in the answering behavior of early respondents versus late respondents. Furthermore, prior research has argued that the analysis of *answer passivity* and *survey interest* represents promising control measures for non-response bias (Klarmann 2008, p. 288). In the *seller firm survey*, the relevance of the topic has been evaluated by a separate question on the relevance of recovery from the perspective of the seller firm. Based on a seven-point Likert scale, 77.5 percent of the respondents confirmed the high relevance of the research topic by assigning the two highest answering options. In particular, the seller firm participants strongly confirmed the relevance of recovery management for the *reputation of the seller firm* (85.4 percent), the *satisfaction of the customer* (88.5 percent), the *loyalty of the customer* (67.5 percent) and the *continuity of the relationship* (68.6 percent).

The *item non-response* has been acknowledged as a frequent problem in survey-based research where questionnaires are returned with missing responses on one or several questions (Klarmann 2008, p. 293). Missing values in empirical data need to be considered since the ignorance of missing information may lead to false conclusions. Decker and Wagner (2008, p. 56) related missing values to the problem of *item non-response* (i.e. individual values are missing) or *total non-response* (i.e. several values are missing). Two fundamental approaches for the handling of missing values have been suggested by quantitative research literature such as the *deletion of missing values* and the *replacement of missing values* (e.g., Decker and Wagner 2008; Klarmann 2008). The *deletion of missing values* refers to the elimination of all cases from the analysis that contain at least one missing value. Nevertheless, the elimination of all cases with missing values may result in a serious loss of information, which further leads to the distortion of the conclusions drawn from the data (Decker and Wagner 2008, p. 63). Therefore, the elimination of cases with missing values has been further differentiated into *listwise deletion* and *pairwise deletion* approaches. Based on *listwise deletion,* cases in which values for one or more variables are missing are not considered for data analysis. Based on *pairwise deletion*, the covariance of all available cases is considered for the calculation of the covariance matrix. Alternatively, the *replacement of missing values* approach is based on the consideration of all cases by the replacement of the missing values (Klarmann 2008, p. 298). Since the replacement approach was found to yield similar results compared to the pairwise deletion approach under certain conditions, it has been suggested to use the replacement approach with similar response patterns for small sample sizes and a small share of missing values (Gold and Bentler 2000, p. 353). Therefore, the handling of missing values in the present investigation was based on the replacement of missing values by the mean values of responses.

5.2.2 Methodology of quantitative data analysis

Subsequent to the quantitative data collection, a profound analysis of the quantitative data on the basis of advanced statistical methods was conducted. For a discussion of the methodological foundation, the methodology of quantitative data analysis has been structured into *partial least squares* (paragraph 5.2.2.1) and *evaluation criteria for quantitative data analysis* (paragraph 5.2.2.2).

5.2.2.1 Partial least squares

For the analysis of complex causal relationships, the *structural equation modeling (SEM)* approach has been increasingly applied in the research of marketing (Steenkamp and Baumgartner 2000, p. 195). Since the analysis of complex causal structures constitutes the fundamental task of the marketing discipline (Eggert, Fassott and Helm 2005, p. 102), SEM has been considered as a vital methodology for modeling dependence structures between complex constructs (Homburg et al. 2008, p. 168). A fundamental characteristic of SEM rep-

resents the differentiation between *observable (indicator) variables* and *latent variables* where the latter represents complex constructs that cannot be observed or measured directly (Homburg et al. 2008, pp. 167-168). For the utilization of SEM, the methodological approaches of *covariance-based* and *variance-based estimation procedures* need to be differentiated (Henseler, Ringle and Sinkovics 2009, p. 277). With *covariance-based estimation procedures*, model parameters are estimated to minimize the divergence between the covariance matrix of the indicators implied by the model and the empirical covariance matrix of the indicators (Homburg, Pflesser and Klarmann 2008, p. 558). In particular, covariance-based procedures are dependent on the fulfillment of several assumptions (i.e. normal distribution of data, large sample sizes, limited model complexity) with respect to the empirical data (Hair, Ringle and Sarstedt 2011, p. 139). When the basic requirements for covariance-based procedures are not fulfilled, variance-based procedures provide a more robust estimation of parameters (Henseler, Ringle and Sinkovics 2009, pp. 295-296). With *variance-based estimation procedures*, model parameters are estimated based on multiple partial regressions to maximize the explained variance of the dependent variables (Lohmöller 1989, pp. 29-30). As a non-parametric approach, variance-based procedures are not based on the assumption of the normal distribution of data due to the use of separate *ordinary least squares (OLS)* regressions (Fornell and Bookstein 1982, p. 443). The estimation of SEM based on variance-based procedures poses less strict requirements (i.e. non-normal distribution of data, small sample sizes) to the empirical data (Henseler, Ringle and Sinkovics 2009, p. 292), which are compensated by local parameter estimates that are only "consistent at large" (Albers and Hildebrandt 2006, p. 15). Nevertheless, the findings of Reinartz, Hänlein and Henseler (2009, p. 342) reflect that variance-based procedures may even attain superior statistical power compared to covariance-based procedures based on small samples sizes. Furthermore, Hair, Ringle and Sarstedt (2011, p. 140) noted that variance-based procedures represent the more appropriate methodology for the exploration and development of theories. Therefore, Hair et al. (2012, p. 420) have considered variance-based procedures as a more suitable prognosis instrument for investigations based on smaller sample sizes and higher model complexity. Due to the exploratory nature of the research topic (i.e. recovery in business markets), the distribution of the empirical data (i.e. non-normal distribution) and the moderate sample sizes (i.e. $n < 200$), *variance-based estimation procedures* (i.e. partial least squares) have been selected for the quantitative investigation.

The *partial least squares (PLS)* approach represents a variance-based estimation procedure and has been widely applied for the estimation of structural equation models in marketing literature (Hair, Ringle and Sarstedt 2011, p. 139; Hair et al. 2012, p. 428). The application of PLS allows the estimation of comprehensive, complex models with small sample sizes since it is based on the estimation of multiple regression equations (Huber et al. 2007, p. 10). The PLS algorithm is based on the development of construct scores by the weighted sums of the

respective items of a latent variable and is independent from the assumptions of multivariate distribution and independence of observations (Chin 2010, p. 657). The analysis of structural equation models with latent variables based on the PLS approach is related to the *measurement (or outer) model* that identifies the relationships between the latent variables and its indicators and the *structural (or inner) model* that specifies the relationships between the latent variables (e.g., Bollen 1989; Lohmöller 1989).

a.) The measurement model

For the description of the relationships between the latent variables and its indicators, the specification of the *measurement model* is required (Homburg and Giering 1996, p. 6). The definition of the relationship between the latent variables and its indicator variables needs to be taken for each construct in the structural model (Homburg and Klarmann 2006, p. 6). The specification of the measurement model requires the definition, which constructs are measured by which indicators (Homburg, Pflesser and Klarmann 2008, p. 556). The specification of measurement models may be further differentiated into *reflective measurement models* and *formative measurement models.*

In *reflective measurement models*, the characteristics of the indicators are considered as an effect of the characteristics of the latent variable. Since changes in the construct lead to changes in the indicators, these have been defined as *reflective* (Fornell and Bookstein 1982, p. 441) or *effects* (Bollen and Lennox 1991, p. 305) indicators. The causal path runs from the latent variable to the manifest variables in reflective measurement models (Ringle and Spreen 2007, p. 212). Alternatively, reflective indicators may be summarized to an index and included as a single-item construct in the analysis (Albers and Hildebrandt 2006, p. 13). For the development of *reflective measurement models*, several scholars have discussed suitable procedures (e.g., Churchill 1979; Homburg and Giering 1996). In particular, Bollen (1989, pp. 326-328) proposed the following steps for the development of reflective measurement models: (1) phrasing of the theoretical definition, (2) definition of the dimensionality, (3) identification of the indicators and (4) specification of the relationships related to the construct. In the first step, the theoretical scope and facets of the construct is defined on the basis of a review of the existing literature and the use of qualitative interviews. In the second step, the dimensionality of the construct is derived to gain an understanding of its characteristics. In the third step, a sufficient number of (potential) indicators are developed for the measurement of the construct. In the fourth step, the relationships between the indicators and the construct is established and specified. Accordingly, Homburg and Giering (1996, p. 11) suggested the reduction of the indicators in the measurement model through the use of pre-tests to verify and improve the unambiguousness and pertinence of the indicators. As reflective indicators are interchangeable, the elimination of indicators from the measurement model is permitted as long as it does not restrict the validity of the construct (Eberl 2006, p. 657). An identification problem may

arise for reflective measurement models when the number of indicators in the measurement model is too small (Homburg, Klarmann and Pflesser 2008, p. 281). A reflective measurement model is sufficiently identified when an individual construct is measured by at least three indicators or when a combination of constructs is measured by at least two indicators (Klarmann 2008, p. 239).

In *formative measurement models*, the characteristics of the indicators are considered as the cause of the characteristics of the latent variable. More specifically, the formative indicators constitute observable variables, which establish the latent variable (Bollen 1989, p. 65) and change the nature of the construct if they are omitted (Bollen and Lennox 1991, p. 308). Accordingly, Jarvis, MacKenzie and Podsakoff (2003) noted that for formative indicators "the direction of causality flows from the indicators to the latent construct, and the indicators, as a group, jointly determine the conceptual and empirical meaning of the construct" (p. 201). The formative indicators are based on the assumption of error-free measurement (Edwards and Bagozzi 2000, p. 162) and therefore do not lead to identification problems (Chin and Newsted 1999, p. 313). For the development of *formative measurement models* only few references can be found in literature (e.g., Diamantopoulos and Winklhofer 2001; Rossiter 2002). In general, Diamantopoulos and Winklhofer (2001, pp. 272-273) suggested the following procedure for the development of formative measurement models: (1) phrasing of a theoretical definition, (2) identification of suitable indicators, (3) reduction of indicators and (4) integration of construct in a nomological network. In the first step, the theoretical scope of the latent construct is defined, which must include all relevant facets of the construct. In the second step, a large number of suitable indicators is developed to capture the entire scope of the construct. In the third step, the number of indicators is reduced based on statistical and theoretical considerations. In the fourth step, the construct is integrated into a nomological network with two causally related, reflective constructs, which allows for an evaluation of the constructs and its indicators. The formative construct reflect nomological validity when its indicators are able to explain a substantial share of variance of the reflective constructs. A different stance is taken by Rossiter (2002, p. 308), who strongly suggested that the validation of formative measurement models is only feasible ex-ante during the scale development process. In particular, Rossiter argued that "only one type of validity that is essential: content validity. Content validity is an 'appeal to reason', conducted before the scale is developed, that the items will properly represent the construct" (p. 308). Accordingly, further research has acknowledged that formative measurement models reflect specific requirements regarding the scale development process (Jarvis, MacKenzie and Podsakoff 2003, p. 202).

Due to the fundamental differences between reflective and formative measurement models, the *misspecification of measurement models* has been widely discussed in contemporary literature (e.g., Albers and Hildebrandt 2006; Diamantopoulos and Winklhofer 2001; Jarvis,

MacKenzie and Podsakoff 2003). In particular, Jarvis, MacKenzie and Podsakoff (2003, pp. 206-207) argued that measurement model misspecification may seriously bias the empirical findings and theoretical conclusions derived from the structural model. However, Albers and Hildebrandt (2006, p. 16) countered that it deems difficult to verify if the specification of constructs is incorrect and that a misspecification (i.e. reflective instead of formative specification) limits the meaning of the construct. Nevertheless, the correct specification of measurement models has been acknowledged as important since an incorrect specification may result in serious distortions of the estimation results (Albers and Hildebrandt 2006, p. 26). Against this background, a set of criteria has been developed that supports decision-making on the correct specification of the measurement model. As suggested by prior literature (Jarvis, MacKenzie and Podsakoff 2003, p. 203), a formative specification should be selected for constructs when (1) the indicators represent essential features of the construct, (2) the change of the indicators ultimately leads to the change of the construct, (3) the change of the construct does not directly lead to the change of the indicators, (4) the indicators of the construct are not related to a similar content, (5) the elimination of one indicator leads to a change of the conceptual nature of the construct, (6) the change of one indicator does not directly lead to the change of the other indicators and (7) the indicators of the construct do not share the same antecedents or consequences. Nevertheless, prior research noted that complex constructs usually need to be modeled as formative combinations of their dimensions (Fassott and Eggert 2005, pp. 46-47). A formative measurement model has been recommended when the intention of the investigation is to identify variables or drivers of a construct (Eberl 2006, pp. 656-657).

b.) The structural model

For the description of the causal relationships among the latent variables, the definition of the *structural model* is required. The independent, latent variables have been related to as *exogenous variables*, whereas the dependent, latent variables have been referred to as *endogenous variables* (Bollen 1989, pp. 13-14), which are intended to specify the structural model of the investigation.

The *modeling of moderating effects* in SEM is established by different procedures. In general, *moderating effects* are reflected by the direction and intensity of the causal relationship between exogenous and endogenous variables as determined by a third, moderating variable. In particular, a *moderator variable* has been defined as a qualitative or quantitative variable, which determines the sign and impact of the relationship between an independent and a dependent variable (Baron and Kenny 1986, p. 1174). The fundamental importance of moderating effects for the comprehension of complex causal relationships has repeatedly stressed in literature (Chin, Marcolin and Newsted 2003, p. 193). Prior research has argued that substantial progress in theory development may only be achieved based on an understanding of the conditions (i.e. moderating effects) under which causal relationships evolve (Eggert, Fassott

and Helm 2005, p. 103). The PLS approach is specifically suitable for the modeling of moderating effects since it is not based on the assumption of uncorrelated error terms (Chin, Marcolin and Newsted 2003, p. 193). For the modeling of moderating effects in the course of SEM, the *interaction term* approach may be considered. This approach constitutes a suitable approach for the modeling of moderating effects when the moderating variable represents a *continuous variable* (Baron and Kenny 1986, pp. 1174-1176). According to this approach, the indicators of the independent variable and the indicators of the moderator variable are multiplied to form an interaction term (cf. figure 5.6).

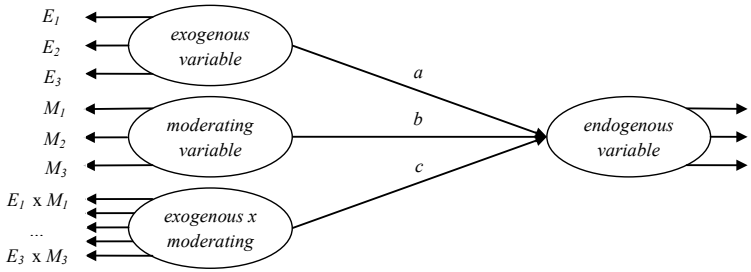


Figure 5.6: Modeling of moderating effects
Source: adapted from Baron and Kenny (1986, p. 1174)

An interaction effect is existent when independent of the path coefficients of the exogenous variable (a) and the moderator variable (b) on the endogenous variable, the interaction effect (c) attains a significant value (Baron and Kenny 1986, p. 1174). For the calculation of the interaction term, each indicator of the independent variable has to be multiplied with each indicator of the moderating variable to establish the indicators of the interaction term (Chin, Marcolin and Newsted 2003, p. 199). For constructs with reflective indicators, the modeling of moderating effects is based on a two-step process (Götz and Liehr-Gobbers 2004, p. 725). In the first step, the indicators of the exogenous variable and the moderating variable are standardized (i.e. mean 0, variance 1) and introduced in the structural equation model. In the second step, the indicators of the interaction variable are calculated by the pairwise multiplication of the indicators of the exogenous variable and the moderator variable. This procedure is intended to prevent multicollinearity problems that may result from the multiplication of indicators (Eggert, Fassott and Helm 2005, p. 108). While the coefficient of *path a* reflects the impact of the exogenous on the endogenous variable under negligence of the moderator variable, the coefficient of *path c* conveys the extent to which the impact of the exogenous on the endogenous variable changes due to the moderator variable (Eggert, Fassott and Helm 2005, p. 109). Based on the specification of the interaction term, the interaction effect may be evaluated based on the coefficient and significance of the interaction path.

In conclusion, the PLS approach reflects several specific characteristics for the analysis of structural equation models with latent variables. Since variance-based estimation procedures have been acknowledged as advantageous for complex structural equation models based on small sample sizes (Klarmann 2008, p. 22), the PLS approach has been considered as the most appropriate estimation procedure for the present investigation.

5.2.2.2 Evaluation criteria for quantitative data analysis

To assess the reliability and validity of the structural equation models, a two-step procedure has been suggested, which involves the successive evaluation of the *measurement models* and the *structural model* (Hair, Ringle and Sarstedt 2011, p. 144). In quantitative research literature, several evaluation criteria have been established, which may be differentiated into *evaluation criteria related to measurement models* and *evaluation criteria related to structural models*.

a.) Evaluation criteria related to measurement models

Subsequent to the specification and calculation of measurement models, its evaluation is required to verify the correct measurement of the constructs and to allow the derivation of further conclusions. For the evaluation of the quality of measurement of the latent variables and its indicators, *reflective measurement models* need to be differentiated from *formative measurement models.*

For the evaluation of *reflective measurement models*, a consistent set of quality measures has been developed in literature. In general, the evaluation of reflective measurement models is based on the *reliability* and *validity* of the measurement (e.g., Churchill 1979; Churchill and Iacobucci 2000). The *reliability* has been defined as "the degree to which measures are free from random error and thus reliability coefficients estimate the amount of systematic variance in a measure" (Peter and Churchill 1986, p. 4). In contrast, *validity* has been suggested to exist "when the differences in the observed scores reflect true differences on the characteristic one is attempting to measure and nothing else" (Churchill 1979, p. 65). The validity of a measurement is determined by the extent to which differences in the actual scores reflect the differences in the true scores (Churchill and Iacobucci 2000, p. 407). Therefore, the reliability of a measurement instrument represents a necessary, but not sufficient condition for its validity (Homburg, Klarmann and Pflesser 2008, p. 279). In particular, the following evaluation criteria have been suggested for reflective measurement models.

- The *construct reliability* represents a measure for the internal consistency of the indicators of a factor in reflective measurement models (Homburg and Giering 1996, p. 8). The construct reliability refers to the degree to which a latent variable is measured by the indicator variables assigned to measure it (Krafft, Götz and Liehr-Gobbers 2005, p.

74). The reliability of a latent variable may be calculated by the *Cronbach's alpha* (Cronbach 1951, p. 331) where the indicators are split into two groups and then correlated with each other. A reliability level above .70 for infant research and .80 for advanced research has been suggested to reflect adequate construct reliability (Nunnally 1978, p. 245).

- The *composite reliability* has been suggested as a superior measure for internal consistency compared to Cronbach's alpha since it considers the number of indicators (Chin 1998, p. 320) and the reliability of indicators (Hair, Ringle and Sarstedt 2011, p. 145) in the estimation process. The *composite reliability (CR)* has been defined as

$$CR = \frac{(\sum_i \lambda_{ij})^2}{(\sum_i \lambda_{ij})^2 + \sum_i var(\varepsilon_i)}$$

where λ_{ij} denotes the loading of an indicator variable i on a latent variable j and $var(\varepsilon_i)$ reflects the variance of the error terms of an indicator variable i (Huber et al. 2007, p. 35). The *CR* measure may attain values between 0 and 1, whereas Chin (1998, p. 320) suggested that for exploratory research *CR* values above .60 may be considered as acceptable.

- The *indicator reliability* relates to the share of variance of an indicator that is explained by the latent variable (Homburg and Giering 1996, p. 10). Prior research suggested that reflective indicators with an indicator reliability below .40 should be eliminated (Hulland 1999, p. 198). The indicator reliability, thus, reflects the appropriateness of the indicator variables for the measurement of the latent variable (Ringle and Spreen 2007, p. 212).
- The *discriminant validity* has been defined as "the degree to which measures of distinct concepts differ" (Bagozzi and Phillips 1982, p. 469). The discriminant validity refers to the relationships between the indicator variables and the other latent variables, which should be weaker than the relationships between the indicator variables and the assigned latent variable (Bagozzi, Yi and Phillips 1991, p. 425). Discriminant validity may be analyzed by the *cross loadings* (at indicator level) and the *Fornell-Larcker criterion* (at construct level) in PLS path modeling. The *cross loadings* reflect the loadings of an indicator on its latent variable, which should be larger than the loadings on all other latent variables (Chin 1998, p. 321). Based on the *Fornell Larcker criterion*, the *average variance extracted (AVE)* of a latent variable should be larger than the squared correlations of the latent variable with any other latent variable in the structural model (Fornell and Larcker 1981, p. 45). The *AVE* relates to the proportion of variance of an indicator variable explained by the latent variable in comparison to non-explained variance (Fornell and Cha 1994, p. 69) and has been defined as

$$AVE = \frac{\sum_i \lambda_{ij}^2}{\sum_i \lambda_{ij}^2 + \sum_i var(\varepsilon_i)}$$

where λ_{ij} denotes the loading of an indicator variable i on a latent variable j and $var(\varepsilon_i)$ reflects the variance of the error terms of an indicator variable i. The discriminant validity is confirmed when the squared correlations between all other latent variables are lower than the *AVE* of the latent variable (Homburg and Giering 1996, p. 14).

- The *convergent validity* refers to "the degree to which two or more attempts to measure the same construct are in agreement" (Bagozzi and Phillips 1982, p. 468). The convergent validity is assessed based on the *factor reliability* of the latent variable and the *average variance extracted* by the indicator variables. For the analysis of factor reliability, a significance test of the factor loadings has been suggested (Bagozzi, Yi and Phillips 1991, p. 434). In the significance test, a *t-test* is used to investigate if the factor loadings significantly deviate from zero. Based on a confidence interval of five percent, a factor loading is significant when the empirical t-value is equal to or higher than 1.645 based on a *one-sided test* (Homburg and Giering 1996, p. 11). For the analysis of the variance of latent variables extracted from its indicators, *AVE* values larger than .50 are considered as acceptable since at least half of the variance of an indicator should be explained by the latent variable (Homburg and Giering 1996, p. 12).
- The *predictive validity* refers to the evaluation of reflective latent variables where the residuals of the indicator variables are compared with the residuals of a simple estimation based on the mean values of the indicator variables. The *Stone-Geisser criterion (Q^2)* allows the reconstruction of the construct by its indicators based on the *blindfolding procedure* where a proportion of the original data matrix is neglected in the estimation process (Fornell and Cha 1994, p. 72). The Q^2 measure may be obtained for the *communalities* at the construct level and has been defined as

$$Q_j^2 = 1 - \frac{\sum_k E_{jk}}{\sum_k O_{jk}}$$

where E_{jk} denotes the estimated residuals and O_{jk} reflects the observed residuals of the construct j. For Q^2 values above 0, the residuals of the estimated model are smaller than the residuals of the simple estimation and the model is assumed to have predictive relevance, whereas for Q^2 values below 0, the opposite is true (Fornell and Cha 1994, p. 73).

For the evaluation of *formative measurement models*, the evaluation criteria developed for reflective measurement models are not applicable (Diamantopoulos and Winklhofer 2001, p. 271). Due to the inversion of the causality for formative latent variables, Diamantopoulos

(2006) noted that for formative measurement models "reliability becomes an irrelevant criterion for assessing measurement quality" (p. 11). Since the evaluation criteria developed for reflective measurement models cannot be transferred to formative measurement models (Hair, Ringle and Sarstedt 2011, p. 145), a different interpretation of the measurement model is required. For the evaluation of the *validity of formative constructs,* a *two-step process* has been suggested by literature (Henseler, Ringle and Sinkovics 2009, pp. 300-301). In the first step, the assessment of the validity of formative indicators based on relevant theory and expert knowledge should be conducted. In the second step, the validity of formative constructs should be derived based on statistical procedures. More specifically, the following evaluation criteria for formative measurement models have been developed in literature.

- The *nomological validity* of the measurement model is assessed by the integration of the formative latent variable into a larger theoretical framework where the relationship between the latent variable and other reflective latent variables are analyzed (Homburg and Giering 1996, p. 13). The *nomological validity* refers to "the degree to which predictions based on a concept are confirmed within the context of a larger theory" (Bagozzi 1979, p. 14). In particular, Diamantopoulos and Winklhofer (2001, p. 273) suggested that the validation of formative latent variables may be based on (a) the aggregation of information to an overall index, (b) the collection of information for the formative and reflective measurement of the construct or (c) the theoretically proven relationship of the formative latent variable with a reflective latent variable. If a significant relationship with the reflective latent variable is identified, the nomological validity of the measurement model is assumed (Eggert and Fassott 2003, p. 9).
- The *predictive validity* of an indicator with respect to a formative latent variable is reflected by a significant regression coefficient. Therefore, an indicator variable should be eliminated from the measurement model when it does not inhibit a significant impact on the formative index (Chin 1998, pp. 318-320). However, formative indicators should not be eliminated for statistical reasons since this may alter the conceptual nature of the construct (Jarvis, MacKenzie and Podsakoff 2003, p. 202) and formative indicators should remain in the measurement model as long as it is acceptable from a conceptual point of view (Henseler, Ringle and Sinkovics 2009, p. 302).
- The *multicollinearity* of indicators is related to the linear dependency among indicators where high correlations among formative indicators may result in distorted parameter estimations (Backhaus et al. 2006, p. 88). In formative measurement models, high correlations between indicators lead to larger standard errors, inaccurate parameter estimations and significant parameter fluctuations based on the variations in the empirical data (Grewal, Cote and Baumgartner 2004, p. 527). The degree of multicollinearity may be calculated by the *variance inflation factor (VIF)*, which reflects the proportion of vari-

ance of an indicator that can be explained by the remaining indicator variables and is defined as

$$VIF_j = \frac{1}{1 - R_j^2}$$

where R_j^2 denotes the proportion of the variance explained by the indicator j. The VIF measure may assume values above 0, whereas VIF values above 10 indicate a serious level of multicollinearity (Gujarati 2003, p. 362). Alternatively, the *tolerance value (TV)* may be calculated where TV values below .10 represent a problem with multicollinearity (Hair et al. 2006, p. 230). More recently, Hair, Ringle and Sarstedt (2011, p. 147) suggested a more rigid VIF value of 5 as a threshold for multicollinearity. If serious multicollinearity is identified, the elimination of the indicators from the formative measurement model has been recommended (Krafft, Götz and Liehr-Gobbers 2005, p. 78).

b.) Evaluation criteria related to structural models

Based on the confirmation of reliability and validity of the measurement model, the evaluation of the *structural model* is important to derive conclusions on the relationships between the latent variables. For the evaluation of the structural model based on variance-based procedures, non-parametric tests need to be applied (Krafft, Götz and Liehr-Gobbers 2005, p. 83) since global evaluation criteria are not existent (Ringle and Spreen 2007, p. 216). Due to the iterative estimation process of variance-based procedures based on separate regressions, quality criteria may be only calculated for partial structures (Huber et al. 2007, p. 12). For the evaluation of partial structures, a number of quality measures have been suggested by literature. If these quality criteria are met for all partial structures, the structural model may be considered as reliable.

- The *strength* and *significance* of the path coefficients denote the basic quality criteria for the *structural model* (Chin 1998, p. 316). The *tests of significance* based on *t-statistics* developed by resampling techniques such as *bootstrapping* represents a standard test procedure (Chin 1998, pp. 318-320). The bootstrapping procedure considers an observed sample as the population and generates a large number of bootstrap samples based on randomly drawing cases with replacement (Henseler, Ringle and Sinkovics 2009, p. 305). The significance of the structural relationships may be calculated with a *student's t-test* based on the statistic

$$t_{emp} = \frac{w}{se\,(w)}$$

where t_{emp} denotes the empirical t-value, *w* reflects the original estimation of path coefficients and *se (w)* refers to the standard error from bootstrapping. The distribution table of the student's t-test reflects the theoretical t-value based on the specific degrees of freedom, which is compared with the empirical t-value to determine the significance of the relationship (Henseler, Ringle and Sinkovics 2009, p. 306). Based on a confidence interval of five percent, a regression coefficient is considered as valid when the empirical t-value is equal to or higher than 1.645 based on a *one-sided test* (Homburg and Giering 1996, p. 11). Based on the smallest sample size of the investigation (n = 103), these conservative thresholds may lead to an unjustifiable rejection of hypothesizes. Since structural relationships are generally underestimated by variance-based procedures, a less conservative confidence interval of 10 percent has been considered for this investigation. As argued by recent research (Klarmann 2008, pp. 112-113), confidence intervals with $p < .10$ may be used for smaller samples sizes ($n < 100$).

- The *coefficient of determination* (R^2) of the endogenous variables has been considered as a fundamental criterion for the assessment of the structural model since variance-based procedures (i.e. PLS) are intended to maximize the level of explained variance (Krafft, Götz and Liehr-Gobbers 2005, p. 83). The *coefficient of determination* refers to the level of variance of an endogenous latent variable explained by the related exogenous latent variables (Chin 1998, p. 316). The R^2 measure reflects the quality of adaptation ("goodness of fit") of the regression function to the empirical data (Backhaus et al. 2006, p. 63). In general, R^2 attains values between 0 and 1, whereas values of .19, .33 and .67 may be interpreted as a weak, moderate and substantial effect in a structural model (Chin 1998, p. 323). Nevertheless, R^2 values need to be interpreted based on the context of the investigation.
- The *effect size* (f^2) has been considered as an important measure for the strength of relationships in structural models (Chin 1998, p. 316). On the basis of the R^2 measure, the addition and elimination of causal paths allows the analysis of the impact of exogenous and endogenous variables in the structural model. The strength of the effects of causal paths may be analyzed by the effect size f^2 (Cohen 1988, pp. 410-413), which has been defined as

$$f^2 = \frac{R^2_{incl} - R^2_{excl}}{1 - R^2_{incl}}$$

where R^2_{incl} reflects the explained variance of the endogeneous latent variable by the exogeneous latent variable(s) including the new exogenous variable, while R^2_{excl} denotes the explained variance of endogenous latent variable by the exogenous latent variable(s) excluding the new exogenous variable. In general, f^2 values of .02, .15 or .35

represent small, medium or large effects of the exogenous on the endogenous latent variable (Cohen 1988, p. 413). Nevertheless, even low effect sizes may yield important information. In particular, Chin, Marcolin and Newsted (2003) argued that "[e]ven a small interaction effect can be meaningful under extreme moderating conditions, if the resulting beta changes are meaningful, then it is important to take these conditions into account" (p. 211).

- The *predictive validity* of structural models may evaluated by the *Stone-Geisser (Q^2)* criterion derived from the *blindfolding procedure* where a specific part of the raw data matrix is considered as missing (Fornell and Cha 1994, pp. 71-73). The Q^2 measure reflects if empirically derived (i.e. observed) values can be reconstructed by the parameter estimates of the model without a loss in the degrees of freedom (Chin 1998, p. 317). The Q^2 measure may be obtained for *redundancies* at the structural level. Q^2 values above 0 reflect sufficient predictive relevance of the structural model, whereas Q^2 values below zero reflect a lack of predictive relevance of the indicator variables (Ringle and Spreen 2007, p. 215). If the Q^2 values are above 0, the structural model is assumed to have *predictive validity* since the residuals from the model estimation are lower than the residuals from the simple estimation.

5.3 The relational consequences of recovery management

In this paragraph, the *relational consequences of recovery management* in business-to-business markets are investigated. On the basis of the fundamental recovery dimensions developed in paragraph 4.4, the consequences on the relationship between seller and customer firm have been identified to answer the *second* and *third research question*. The investigation on the relational consequences of recovery management is structured into the following paragraphs. At first, the *frame of investigation* is established to provide an overview on the structure of the investigation (paragraph 5.3.1). The *definition of constructs* is established to define the terminology for the investigation (paragraph 5.3.2). Subsequently, the *development of hypotheses* is conducted to derive the theoretical foundation of the investigation (paragraph 5.3.3). The *measurement of constructs* is accomplished to obtain the empirical foundation for the investigation (paragraph 5.3.4). Finally, the *results of hypothesis testing* are intended to derive the outcomes of the investigation (paragraph 5.3.5).

5.3.1 Frame of investigation

The present investigation on the relational consequences of recovery management in business-to-business markets intends to evaluate the effects of the recovery dimensions of the seller firm on the *relationship between seller and customer firm* from a *customer perspective* (cf. figure 5.7).

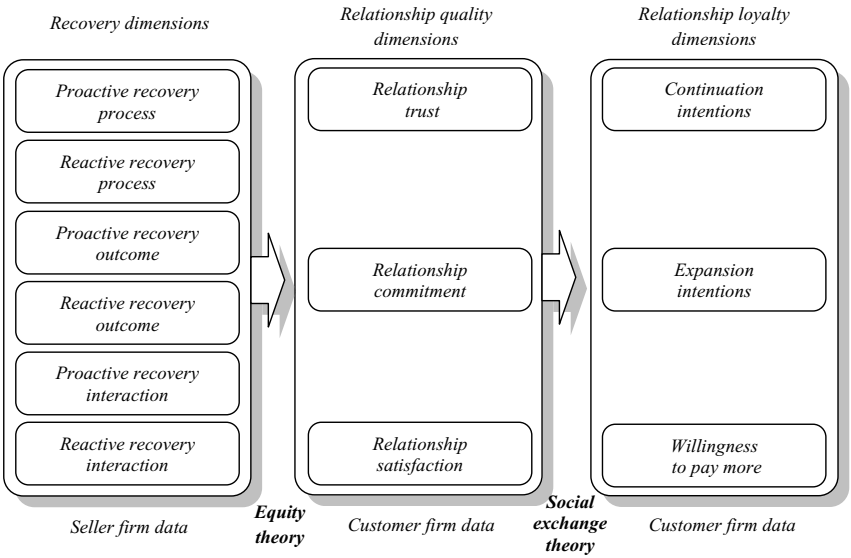


Figure 5.7: Structure of recovery relationship model

Source: own illustration

In the focal investigation, effects of the fundamental *recovery dimensions* (cf. paragraph 4.4) on the *quality of customer relationships* and the *loyalty in customer relationships* are assessed. Based on the *recovery relationship model*, the impact of the *recovery dimensions* on the *relationship quality dimensions* and the *relationship loyalty dimensions* are investigated. The effects of the recovery dimensions on the relationship quality dimensions are explained on the basis of the *equity theory* (cf. paragraph 3.1), whereas the impact of the relationship quality dimensions on the relationship loyalty dimensions are elucidated based on the *social exchange theory* (cf. paragraph 3.2).

5.3.2 Definition of constructs

For the empirical investigation of the relational consequences of recovery management, the fundamental constructs are defined in the following paragraphs. A *construct* has been defined as "an abstract entity which represents the 'true', nonobservable state or nature of a phenomenon" (Bagozzi and Fornell 1982, p. 24). Since constructs represent abstract units with multiple meanings, a clear definition of constructs is of fundamental importance for assuring *content validity* in the investigation (Homburg and Klarmann 2006, p. 10). On the basis of the findings from the qualitative investigation and the theoretical considerations, the *recovery relationship model* is based the constructs related to the *recovery dimensions* (paragraph

5.3.2.1), the *relationship quality dimensions* (paragraph 5.3.2.2) and the *relationship loyalty dimensions* (paragraph 5.3.2.3), which are further explicated in the subsequent paragraphs.

5.3.2.1 The recovery dimensions

The *recovery dimensions* refer to the conceptual dimensions of recovery defined and implemented by the seller firm to handle failure situations towards their customers. Based on the findings from the literature review (cf. paragraph 2.2) and the qualitative investigation (cf. paragraph 4.4), the recovery dimensions have been differentiated into the constructs *proactive recovery process, reactive recovery process, proactive recovery outcome, reactive recovery outcome, proactive recovery interaction* and *reactive recovery interaction* as reflected by the recovery management framework.

The construct *proactive recovery process* is defined as the *actions taken by the seller firm before a product or service failure has been perceived by the customer*. In general, proactivity in the recovery process implies that the seller firm takes the initial actions in the recovery process to handle failure situations even *before* these have become apparent to customers. The proactive recovery process involves *failure prevention*, *failure identification* and *failure notification. Failure prevention* is defined as the *actions taken by the seller firm to anticipate and prevent product or service failures from occurring including internal and external sources of failures*. In general, failure prevention relates to the actions of the seller firm directed at the avoidance of failures (Lockshin and McDougall 1998, p. 437). *Failure identification* is defined as the *actions taken by the seller firm to detect the occurrence of product or service failures*. Therefore, failure identification refers to all activities of the seller firm directed at the discovery of failures (Durvasula, Lysonski and Metha 2000, p. 448). *Failure notification* is defined as the *actions taken by the seller firm to inform customers on product or service failures*. The failure notification comprises all activities of the seller firm to inform its customers on failure situations (Lockshin and McDougall 1998, p. 437). Nevertheless, failure notification also implies that customers have the possibility to notify the seller firm about failures. Several studies have stressed the importance of encouraging customer complaints (e.g., Homburg and Fürst 2005; Homburg, Fürst and Koschate 2010).

The construct *reactive recovery process* is defined as the *actions taken by the seller firm after a product or service failure has been perceived by the customer.* The reactivity of the recovery process implicates that the seller firm takes initial steps in the recovery process to handle failure situations *after* these have become apparent to customers. The reactive recovery process encompasses *failure response*, *failure analysis* and *failure controlling*. *Failure response* is defined as the *actions taken by the seller firm to respond to product or service failure situations*. The timely response to problems is important since customers expect immediate support when problems occur as disruptions of products and services directly impact the custom-

ers' operations. *Failure analysis* is defined as the *actions taken by the seller firm to identify the root cause of a product or service failure*. The root cause of a failure situation needs to be analyzed thoroughly to develop measures to correct current and prevent future failures (Hoffman, Kelley and Rotalsky 1995, p. 49) and derive areas for improvement (La and Kadampully 2004, p. 394). In addition, *failure controlling* is defined as the *actions taken by the seller firm to monitor the number and costs of product or service failures*. The tracking of failures refers to the efforts of the seller firm to trace occurring failures, which facilitates the identification of sources of problems (DeWitt and Brady 2003, p. 203) and the evaluation of the effectiveness of recovery (Gonzalez, Hoffman and Ingram 2005, p. 61).

The construct *proactive recovery outcome* is defined as the *actions taken by the seller firm to avoid future product or service failures*. The proactive recovery outcome is represented by *reduction of failures* and *explanation of failures*. The *reduction of failures* is defined as the *actions of the seller firm to integrate information obtained from product or service failures into their future products, services and processes*. Accordingly, the reduction of failures refers to the efforts of the seller firm to reduce the number of future failures based on the information derived from the analysis and resolution of current failure situations (Smith and Karwan 2010, p. 4). The *explanation of failures* is defined as the *actions of seller firms to elucidate customers the reasons for a product or service failure*. Therefore, the explanation of failures refers to the extent to which the seller firm provides a clarification on the reasons for the failure situation in a comprehensible and consistent manner (Boshoff 1999, p. 240), which has been regarded as specifically important in a business market context (Durvasula, Lysonski and Metha 2000, p. 439).

The construct *reactive recovery outcome* is defined as the *actions taken by the seller firm to respond to existing product or service failures*. More specifically, the reactive recovery outcome is characterized by *resolution of failures*, *compensation of failures* and *apology for failures*. The *resolution of failures* is defined as the *actions of seller firms to resolve existing product or service failures for their customers*. The resolution of failures represents a prerequisite for the subsequent steps in the recovery process and ultimately the success of the recovery encounter (Lockshin and McDougall 1998, p. 435). The *compensation of failures* is defined as the *actions of seller firms to provide monetary and non-monetary indemnification for product or service failures to customers*. When customers experience a significant loss due to a failure, compensation becomes critical since customers generally expect compensation after failures have occurred (Hess, Ganesan and Klein 2003, p. 140). The *apology for failures* is defined as the *actions of seller firms to formally excuse for a product or service failure to the customer*. The apology for failures refers to the efforts of the seller firm to provide a written or verbal exculpation for a failure situation (Boshoff 1999, p. 239). However, apology does not imply the attendance of responsibility for the failure by the seller firm.

The construct *proactive recovery interaction* is defined as the *actions taken by the seller firm to actively approach customers during the handling of product or service failures*. More specifically, proactive recovery interaction comprises *rapport of employees*, *initiative of employees* and *feedback of employees* during the failure situation. The *initiative of employees* is defined as the *actions of seller firm employees to take the initiative to resolve the product or service failure situation*. The initiation of the recovery encounter allows the seller firm to capture dissatisfied, non-complaining customers and, thus, represents a proactive measure of recovery (Smith, Bolton and Wagner 1999, p. 68). The *rapport of employees* is defined as the *actions of seller firm employees to develop a personal relationship with customer firm employees*. In particular, rapport has been related to the efforts of employees to develop an enjoyable interaction and a personal connection with customers prior to failure situations (Gremler and Gwinner 2000, p. 92) and has been considered as proactive behavior of the seller firm (Worsfold, Worsfold and Bradley 2007, p. 2497). The *feedback by employees* is defined as the *actions of seller firm employees to provide information on the resolution of a specific product or service failure to their customers*. In particular, feedback has been related to the efforts of seller firm employees to inform on the steps taken to resolve the failure situation (Boshoff 1999, p. 240).

The construct *reactive recovery interaction* is defined as the *actions taken by the seller firm to passively respond to customers during the handling of product or service failures.* Accordingly, reactive recovery interaction is characterized by *commitment of employees*, *reliability of employees* and *courtesy of employees* during the failure situation. The *reliability of employees* is defined as the *actions of seller firm employees to provide reliable information and the adherence of promises made to customers*. In particular, reliability refers to the extent to which customers can rely on promises made by the seller firm (Zemke and Bell 1990, p. 46) and receive reliable information during failure situations (Boshoff 1999, p. 240). The *commitment of employees* is defined as the *actions of seller firm employees to reflect dedication to the resolution of the product or service failure situation towards their customers*. The commitment of seller firm employees has been related to the personal dedication of service employees to the failure resolution (Johnston 1995, p. 221) and has been considered as a critical element of recovery (Michel 2001, p. 26). The *courtesy of employees* is defined as the actions of *seller firm employees to treat customers during the resolution of the product or service failure situation*. The courtesy of seller firm employees has been acknowledged as the respectful and polite handling of customers during the recovery encounter (Johnston 1995, p. 225) and considered as mandatory for effective recovery (Wirtz and Mattila 2004, p. 162).

5.3.2.2 The relationship quality dimensions

According to relationship marketing literature, *relationship quality* represents an imminent theoretical concept for the strength of the relationship between seller and customer firms in

the context of business-to-business markets (Holmlund 2008, p. 33). In particular, Huntley (2006) defined *relationship quality* as "the degree to which buyers are satisfied over time with the overall relationship as manifested in product quality, service quality, and price paid for the value received and the degree to which the relationship functions as a partnership" (p. 4). In the present investigation, the relationship quality concept is intended to capture the mid-term effects of product or services failures and subsequent recovery activities on buyer-seller relationships. Similarly, prior research has suggested investigating the long-term effects of relationship quality in a recovery context (Weun, Beatty and Jones 2004, p. 141) and its role in recovery strategies (Holloway, Wang and Beatty 2009, p. 392). To gain a detailed understanding of the impact of recovery dimensions on the quality of relationships, the specific subdimensions of the relationship quality concept will be considered. In accordance with prior research (e.g., Ivens 2004; Wagner, Eggert and Lindemann 2010; Walter et al. 2003), the *relationship quality* dimensions have been conceptualized to be established by the constructs *relationship trust*, *relationship commitment* and *relationship satisfaction*.

The construct *relationship trust* has been defined as the "confidence in the exchange partner's reliability and integrity" (Morgan and Hunt 1994, p. 23). In general, trust represents a fundamental element in business relationships since it facilitates a long-term perspective on the benefits of exchange relationships (Ganesan 1994, p. 14). Trust has been identified to consist of *credibility* (i.e. expectation that the partner can be relied on) and *benevolence* (i.e. expectation that the partner is interested in the welfare of the other partner) as the fundamental dimensions of trust (Doney and Cannon 1997, p. 36). As argued by Walter et al. (2003, p. 161), trust consists of the fundamental dimensions such as the benevolence, honesty and competence of the other exchange partner to contribute to the relationship. Furthermore, Magnini et al. (2007) noted that "[t]rust is an integral component in the development of marketing relationships and exists when one party has confidence in another's reliability and integrity" (p. 214). In previous research, relationship trust has been considered to be developed between organizations at the *interorganizational level* (e.g., Anderson and Narus 1990; Doney and Cannon 1997; Garbarino and Johnson 1999) or between individuals at the *interpersonal level* (e.g., Doney and Cannon 1997; Narayandas and Kasturi Rangan 2004). In particular, Doney and Cannon (1997, p. 45) disclosed that trust in the seller firm is established through trust in the sales person as well as seller firm characteristics and activities. Since credibility and benevolence of exchange partners represents a mandatory attribute in business markets, relationship trust has been conceptualized as an interorganizational construct in this investigation.

The construct *relationship commitment* has been defined as the "desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship" (Anderson and Weitz 1992, p. 19). Accordingly, Berry and Parasuraman (1991) noted that long-term relationships are "built on the founda-

tion of mutual commitment" (p. 139). Furthermore, Morgan and Hunt (1994) argued that relationship commitment includes "an exchange partner believing that an ongoing relationship with another is so important as to warrant the maximum efforts at maintaining it; that is, the committed party believes the relationship is worth working on to ensure that it endures indefinitely" (p. 23). The commitment to the exchange relationship forges a long-term perspective where individuals are willing to accept short-term losses for long-term gains (Tsiros, Ross and Mittal 2009, p. 266). Therefore, relationship commitment has been acknowledged as important for the development of business relationships (Theron, Terblanche and Boshoff 2008, p. 998). Since commitment is developed between organizations rather than individuals (Narayandas and Kasturi Rangan 2004, p. 72), relationship commitment has been conceptualized as an interorganizational construct for this investigation.

The construct *relationship satisfaction* has been related to an affective state of mind of the customer on the basis of all elements of the relationship with the seller firm (Geyskens, Steenkamp and Kumar 1999, p. 223). Similarly, relationship satisfaction has been defined as the "cognitive and affective evaluation based on personal experience across all (…) episodes within the relationship" (Roberts, Varki and Brodie 2003, p. 175). With respect to business markets, the *relationship satisfaction* judgment has been related to the individual evaluations of *attribute satisfaction* and *transaction satisfaction* judgments (Bauer 2000, p. 35). In particular, attribute satisfaction judgments denote the evaluation of attributes of the seller firm and its products or services across transactions, whereas transaction satisfaction judgments relate to the evaluation of individual transactions during the relationship. Consequently, the development of relationship satisfaction is based on a cumulative evaluation process, which is substantially influenced by the occurrence of critical incidents in the relationship (Bauer 2000, p. 35). More specifically, Backhaus and Bauer (2001, p. 44) suggested that negative incidents (i.e. failure situations) have a significant, non-linear impact on the development of relationship satisfaction judgments, which may be illustrated by a concave-shaped function.

5.3.2.3 The relationship loyalty dimensions

Prior research has acknowledged that striving towards long-term relationships represents an effective approach to attain customer loyalty in business-to-business markets (Narayandas 2005, p. 136). In general, *customer loyalty* has been conceptualized to comprise the customer intentions to continue and expand purchases from the seller firm (Anderson, Fornell and Lehmann 1994, p. 55) and reflects the intention of customers to develop and maintain a long-term relationship with the seller firm (Selnes 1998, p. 316). In particular, Homburg, Giering and Menon (2003) noted that customer loyalty involves "the intention of a buyer to continue the purchasing relationship with a supplier and to expand the quantity and volume of this relationship" (p. 38). Customer loyalty implies the relational commitment of the customer to the relationship with the seller firm and has been defined "as a commitment to continue buying a

product or service, whatever the circumstances" (Narayandas 2005, p. 136). Nevertheless, Narayandas (2005) suggested to consider the entire scope of the customer loyalty concept in business markets, which reflects beyond the repurchasing behavior of the customer. According to prior literature, satisfied and loyal customers were also found to reflect higher willingness to pay premium prices for the products or services supplied by the seller firm (Homburg, Koschate and Hoyer 2005, p. 93). In accordance with prior literature (e.g., Narayandas 2005), the *relationship loyalty* dimensions have been conceptualized to comprise the constructs *continuation intentions*, *expansion intentions* and *willingness to pay more*.

The construct *continuation intention* has been defined as the "intention of a buyer to continue the purchasing relationship with a supplier" (Homburg, Giering and Menon 2003, p. 38). The continuation intentions exemplify the willingness of the customer to purchase the same products or services of the seller firm in the future and, thus, constitute a basis for a stable relationship and the foundation for the further development of the relationship with the customer firm (Narayandas 2005, p. 136). In particular, Narayandas (2005) argued that "buyers are unlikely to pay premiums for products unless they have said in customer surveys that they are 'very likely' to repurchase products" (p. 136). Overall, continuation intentions have frequently been referred to as *repurchase intentions* in marketing literature (e.g., Dorsch, Swanson and Kelley 1998; Ulaga and Eggert 2006; Vázquez-Casielles, Suárez-Álvarez and Del Río-Lanza 2009).

The construct *expansion intention* has been defined as the intentions of customers to purchase the same or other products or services from the seller firm in future (Cannon and Homburg 2001, p. 42) and, thus, significantly differs from repurchase intentions. While the continuation of a relationship may occur repetitively without considerable involvement, the expansion of relationship involves substantial involvement and adaptations to the relationship partners (Selnes 1998, p. 306). Customer intentions to expand the relationship with the seller firm may involve the purchasing of additional products or services from the seller firm and therefore may be also referred to as cross-buying intentions (Srivastava, Shervani and Fahey 1999, p. 10). Accordingly, Homburg, Giering and Menon (2003) specified expansion intention as the "intention of buyer (…) to expand the quantity and the volume of this relationship" (p. 38) and expand the business relationship with the seller firm (Narayandas 2005, p. 136). Furthermore, expansion intentions have been considered as the purchasing of upgraded offerings such as higher-priced or augmented products or services (Bolton, Lemon and Verhoef 2008, p. 46).

The construct *willingness to pay more* has been defined as the customer's acceptance of higher prices for the same product or service (Zeithaml, Berry and Parasuraman 1996, p. 37). In particular, the customer's willingness to pay more reflects the intention of the customer to

accept higher prices of products or services from the seller firm. According to Zeithaml, Berry and Parasuraman (1996, p. 38), willingness to pay more comprises the intentions of customers to continue the business relationship if prices would increase as well as to accept higher prices if competitive firms charge lower prices for the same benefits. Based on the same notion, Narayandas (2005, p. 136) suggested that loyal customers are willing to pay higher prices for the products or services from the seller firm. Similarly, Palmatier et al. (2007) considered the construct *price premium* to assess the "positive or negative percentage price premium to buyer would pay to deal with this firm versus another firm with similar products" (p. 217). Hence, willingness to pay more represents a relative measure for the additional price customers would be willing to pay for a product or service. The construct differs from the absolute measure *willingness to pay*, which reflects the maximum price customers would be willing to pay for a product or service (Homburg, Koschate and Hoyer 2005, p. 85).

The construct *severity of failure* is defined as the *intensity of the damages for the customer caused by the failure situation*. Similarly, the *severity of failure* has been defined by previous research as the perceived loss experienced by the customer with respect to the monetary (i.e. money) and non-monetary (i.e. time, inconvenience) sacrifices resulting from the failure situation (Craighead, Karwan and Miller 2004, p. 309).

5.3.3 Development of hypotheses

Based on the definition of the constructs, the hypotheses related to the relational consequences of recovery management in business markets are developed. More specifically, the *hypotheses related to main effects* ($H_1 - H_{11}$) in the recovery relationship model are developed in paragraph 5.3.3.1, followed by the *hypotheses related to moderating effects* (H_{12}) in paragraph 5.3.3.2.

5.3.3.1 Development of hypotheses related to main effects

In response to the *second research question* (cf. paragraph 1.2), the impact of the recovery dimensions on the relationship between seller and customer firm has been investigated. With respect to the *third research question*, the impact of proactive versus reactive recovery dimensions on the relationship between seller and customer firm has been examined. The hypotheses $H_1 - H_8$ are intended to examine the main effects of the *recovery dimensions* on the *relationship quality dimensions*, whereas the hypotheses $H_9 - H_{11}$ are planned to assess the main effects of the *relationship quality dimensions* on the *relationship loyalty dimensions*. To evaluate the *mid-term effects* of the recovery dimensions on buyer-seller relationships, it is critical to understand how the recovery activities of the seller firm translate into the quality of the relationship between seller and customer firms. Although prior research has generally suggested that a positive effect of recovery on the relationship with customers may exist (Gustafsson 2009, p. 1220), empirical findings on these cumulative effects are missing in lit-

erature. Therefore, the specific impact of the *recovery dimensions* on the *relationship quality dimensions* in business-to-business markets has been investigated. Since the *equity theory* explicates the development of exchange relationships, it represents the theoretical foundation for this investigation.

The *first* hypothesis is related to the impact of *proactive recovery process* on *relationship quality*. As defined in paragraph 5.3.2.1, *proactive recovery process* comprises the *prevention*, *identification* and *notification of failures* by the seller firm. The *prevention of failures* refers to the activities of the seller firm to avert the occurrence of failures, which leads to more reliable products or services and results in lower levels of failures (Johnston 1995, p. 219). According to *equity theory*, the seller firm increases the outcomes of the customer (i.e. less failures) by the prevention of failures, which motivates the customer to increase its inputs (i.e. trust, commitment) to the exchange relationship (Adams 1965, p. 283). The *identification of failures* relates to the efforts of the seller firm to discover failures immediately after its occurrence, which facilitates a fast resolution of the failure situation (Miller, Craighead and Karwan 2000, p. 398). Based on *equity theory*, the seller firm increases its input to the exchange relationship (i.e. searching for failures) by the failure identification, which encourages the customer to increase its inputs (i.e. trust, commitment) to the exchange relationship (Adams 1965, p. 283). The *notification of failures* refers to the actions of the seller firm to inform customers on failures, which allows them to take alternative actions (Lockshin and McDougall 1998, p. 437). According to *equity theory,* the seller firm increases the outcomes of the customer (i.e. timely information) by the failure notification, which stimulates the customer to increase its inputs (i.e. trust, commitment) to the exchange relationship (Adams 1965, p. 283). Therefore, it is supposed that *proactive recovery process* is positively related to *relationship quality* and the following hypotheses were developed:

H_{1a}: Proactive recovery process has a positive impact on relationship trust.

H_{1b}: Proactive recovery process has a positive impact on relationship commitment.

The *second* hypothesis is related to the impact of *reactive recovery process* on *relationship quality*. As specified in paragraph 5.3.2.1, *reactive recovery process* consists of the *response, analysis* and *controlling of failures* by the seller firm. The *response on failures* refers to the activities of the seller firm to react quickly on the failure situation, which facilitates the failure resolution and reflects on customer satisfaction (Hocutt, Charkraborty and Mowen 1997, p. 457). According to *equity theory*, the seller firm increases the outcomes of the customer (i.e. lower failure costs) by the failure response, which motivates the customer to increase its inputs (i.e. trust) in the exchange relationship (Adams 1965, p. 283) and increases satisfaction with the relationship (Oliver and Swan 1989, p. 33). The *analysis of failures* relates to the efforts of the seller firm to examine the root cause of the failure situation to identify and re-

solve the failure (Gonzalez, Hoffman and Ingram 2005, p. 62). According to *equity theory*, the seller firm increases its inputs to the exchange relationship (i.e. analysis of failure), which encourages the customer firm to increase its inputs (i.e. commitment) to the exchange relationship (Adams 1965, p. 283) and increases relationship satisfaction (Oliver and Swan 1989, p. 33). The *controlling of failures* refers to the actions of the seller firm to continuously track failures, which leads to the prevention of future failures (Johnston and Fern 1999, p. 71). Under the terms of *equity theory*, the seller firm increases the outcomes of the customer (i.e. less future failures) by the tracking of failures, which stimulates the customer to increase its inputs (i.e. trust) into the relationship (Adams 1965, p. 283) and results in a more satisfactory relationship (Oliver and Swan 1989, p. 33). Consequently, it is supposed that *reactive recovery process* is positively related to *relationship quality* and the following hypotheses have been derived:

H_{2a}: Reactive recovery process has a positive impact on relationship trust.

H_{2b}: Reactive recovery process has a positive impact on relationship satisfaction.

The *third* hypothesis refers to the impact of *proactive recovery outcome* on *relationship quality*. As defined in paragraph 5.3.2.1, *proactive recovery outcome* comprises the *reduction* and *explanation of failures* by the seller firm. The *reduction of failures* refers to the activities of the seller firm to decrease the number of future failures based on the improvement of its products, services and processes (Brown, Cowles and Tuten 1996, p. 36), which reflects positively on customer satisfaction (Van Vaerenbergh, Larivière and Vermeir 2012, p. 276). According to *equity theory*, the seller firm increases the customers' outcomes (i.e. lower failure costs) by the reduction of failures, which encourages the customer firm to increase its inputs (i.e. commitment) to the exchange relationship (Adams 1965, p. 283) and leads to higher relationship satisfaction (Oliver and Swan 1989, p. 33). The *explanation of failures* relates to the efforts of the seller firm to elucidate the reasons for the failure, which enables customers to understand and learn from the failure situation (Grewal, Roggeveen and Tsiros 2008, p. 433) and exerts a positive impact on satisfaction (Van Vaerenbergh, Larivière and Vermeir 2012, p. 268). According to *equity theory,* the seller firm increases the outcomes of the customer (i.e. larger knowledge), which prompts the customer to increase its inputs (i.e. commitment) to the exchange relationship (Adams 1965, p. 283) and results in higher relationship satisfaction (Oliver and Swan 1989, p. 33). Therefore, it is hypothesized that *proactive recovery outcome* is related positively to *relationship quality* and the following hypotheses were derived:

H_{3a}: Proactive recovery outcome has a positive impact on relationship commitment.

H_{3b}: Proactive recovery outcome has a positive impact on relationship satisfaction.

The *fourth* hypothesis relates to the impact of *reactive recovery outcome* on *relationship quality*. As determined in paragraph 5.3.2.1, *reactive recovery outcome* embraces the *apology, resolution* and *compensation of failures* by seller firms. The *apology for failures* relates to the activities of the seller firm to formally express regret for the failure situation (Boshoff 1999, p. 239), which results in higher customer perceptions of fairness (Bradley and Sparks 2012, p. 47). Referring to *equity theory*, the seller firm increases its inputs to the relationship (i.e. acknowledgement of failure) by the apology, which encourages customers to increase its inputs (i.e. trust, commitment) to the relationship (Adams 1965, p. 283). The *resolution of failures* relates to the activities of the seller firm to sustainably eliminate the failure situation (Johnston 1995, p. 221), which was found to increase customer trust in the seller firm (Kau and Loh 2006, p. 108). Based on *equity theory*, the seller firm increases the customers' outcomes (i.e. elimination of failure) by the failure resolution, which encourages customers to increase its inputs (i.e. trust, commitment) to the relationship (Adams 1965, p. 283). The *compensation of failures* refers to the activities of the seller firm to reimburse customers for the loss caused by the failure situation (Mattila 2001a, p. 585), which was identified to restore the equity of the relationship (Bonifield and Cole 2008, p. 573). According to *equity theory*, the seller firm increases the outcomes of the customer (i.e. lower failure costs) by compensation, which motivates the customer to increase its inputs (i.e. trust, commitment) into the exchange relationship (Adams 1965, p. 283). Consequently, it is hypothesized that *reactive recovery outcome* is positively related to *relationship quality* and the following hypotheses were derived:

H_{4a}: Reactive recovery outcome has a positive impact on relationship trust.

H_{4b}: Reactive recovery outcome has a positive impact on relationship commitment.

The *fifth* hypothesis refers to the impact of *proactive recovery interaction* on *relationship quality*. As defined in paragraph 5.3.2.1, *proactive recovery interaction* comprises the *rapport*, *initiative* and *feedback of seller firm employees* during the recovery encounter. The *rapport of employees* relates to the activities of seller firm employees to develop a relational bond with customer firm employees before a failure situation has occurred (Gremler and Gwinner 2000, p. 90) where interaction was found to have a positive impact on trust in the seller firm (Weun, Beatty and Jones 2004, p. 135). According to *equity theory*, the seller firm increases its inputs to the exchange relationship (i.e. personal relationships) by rapport, which motivates customers to increase its inputs (i.e. commitment) to the relationship (Adams 1965, p. 283) and leads to higher satisfaction with the relationship (Oliver and Swan 1989, p. 33). The *initiative of employees* refers to the activities of seller firm employees to initiate the interaction with customer firm employees during recovery situations (Smith, Bolton and Wagner 1999, p. 359). With respect to *equity theory*, the seller firm increases the customers' outcomes from the relationship (i.e. initial contact) by the initiation, which encourages customers to increase

its inputs (i.e. commitment) to the exchange relationship (Adams 1965, p. 283) and raises satisfaction with the relationship (Oliver and Swan 1989, p. 33). The *feedback of employees* refers to the activities of seller firm employees to inform customers on the failure situation and the progress of its resolution (Andreassen 2000, p. 167). According to *equity theory*, the seller firm increases the outcomes of customers (i.e. latest information) by feedback, which motivates customers to increase its inputs (i.e. commitment) to the relationship (Adams 1965, p. 283) and leads to higher relationship satisfaction (Oliver and Swan 1989, p. 33). Therefore, it is hypothesized that *proactive recovery interaction* is positively related to *relationship quality* based on the following hypotheses:

H_{5a}: Proactive recovery interaction has a positive impact on relationship commitment.

H_{5b}: Proactive recovery interaction has a positive impact on relationship satisfaction.

The *sixth* hypothesis refers to the impact of *reactive recovery interaction* on *relationship quality*. As defined in paragraph 5.3.2.1, *reactive recovery interaction* comprises the *reliability, commitment* and *courtesy of seller firm employees*. The *reliability of employees* refers to the activities of seller firm employees to attend to the promises made to the customer during recovery (Boshoff 1999, p. 240), which was found to increase trust in the seller firm and its employees (Doney and Cannon 1997, p. 47). According to *equity theory*, the seller firm increases the customers' outcomes (i.e. predictable actions) by reliable information, which encourages customers to increase its inputs (i.e. trust, commitment) into the exchange relationship (Adams 1965, p. 283). The *commitment of employees* refers to the activities of seller firm employees to personally dedicate themselves to the resolution of the failure situation (Johnston 1995, p. 221), which was found to have a positive impact on customer trust (Kau and Loh 2006, p. 108). Consistent with *equity theory*, the seller firm increases its inputs to the exchange relationship (i.e. committed employees), which motivates the customer firm to increase its inputs (i.e. trust, commitment) to the relationship (Adams 1965, p. 283). The *courtesy of employees* relates to the activities of seller firm employees to exhibit a respectful, polite behavior to customers during failure situations (Johnston 1995, p. 220) where the fulfillment of relationship functions was found to lead to higher levels of trust and commitment (Walter et al. 2003, p. 165). In line with *equity theory*, the seller firm increases its inputs (i.e. creation of a pleasant atmosphere), which motivates the customer firm to increase its inputs (i.e. trust, commitment) to the exchange relationship (Adams 1965, p. 283). Consequently, it is hypothesized that *reactive recovery interaction* is positively related to *relationship quality* and the hypotheses were developed as:

H_{6a}: Reactive recovery interaction has a positive impact on relationship trust.

H_{6b}: Reactive recovery interaction has a positive impact on relationship commitment.

The *seventh* hypothesis refers to the impact of *relationship trust* on *relationship commitment*. During the development of buyer-seller relationships, exchange partners mutually build trust in the relationship and increase their commitment to the exchange relationship (Dwyer, Schurr and Oh 1987, p. 19). Morgan and Hunt (1994) argued that "relationships characterized by trust are so highly valued that parties will desire to commit themselves to such relationships" (p. 24). Accordingly, prior findings reflect that trust exerts a positive impact on customer commitment towards the seller firm (Geyskens, Steenkamp and Kumar 1999, p. 231). Furthermore, DeRuyter and Wetzels (2000, p. 273) suggested that trust raises the level of identification with the seller firm and develops affective commitment to the seller firm. Therefore, trust among exchange partners increases the motivation to comply with the expectations of the exchange partner related to contractual as well as non-contractual agreements (Narayandas and Kasturi Rangan 2004, p. 74) and represents an antecedent of relationship commitment (Theron, Terblanche and Boshoff 2008, p. 1005). Nevertheless, Bove and Johnson (2001, p. 192) noted that the direction of the causal effects between trust and commitment remains ambiguous since both constructs may represents antecedents as well as consequences of one another. According to *social exchange theory*, mutual trust among exchange partners is determined by the reciprocation of benefits (Blau 1964, p. 99). On the basis of trust in the exchange partner developed by repeated beneficial exchanges, exchange partners commit themselves to the relationship by neglecting alternative exchange relationships (Thibaut and Kelley 1959, p. 22). Accordingly, it is hypothesized that *relationship trust* is positively related to *relationship commitment* and the following hypothesis has been derived:

H_7: Relationship trust has a positive impact on relationship commitment.

The *eighth* hypothesis relates to the impact of *relationship commitment* on *relationship satisfaction*. In business markets, mutual commitment of the exchange partners to the relationship is expected and satisfaction was found to develop when these expectations have been met (Selnes 1998, p. 316). Prior research has confirmed a positive impact of commitment on customer satisfaction with the relationship (Doney and Cannon 1997, p. 47; Storbacka, Strandvik and Grönroos 1994, p. 28). More recently, Vázquez-Casielles, Suárez Álvarez and Díaz Martín (2010, p. 501) noted that relationship satisfaction may be considered as a consequence rather than an antecedent of relationship trust and relationship commitment. According to *social exchange theory*, the mutual commitment of exchange partners to the exchange relationship leads to the continuation of the exchange relationship (Thibaut and Kelley 1959, p. 59) and reflects positively on satisfaction with the relationship (Oliver and Swan 1989, p. 33). Therefore, it is hypothesized that *relationship commitment* is positively related to *relationship satisfaction* and the following hypothesis has been developed:

H_8: Relationship commitment has a positive impact on relationship satisfaction.

To comprehend the *long-term effects* of *recovery management* on *buyer-seller relationships*, it is important to understand how the quality of the relationship between seller and customer firm translates into customer loyalty in the business relationship. Since prior research reflects that satisfied customers may not necessarily be loyal customers (Day 2000, p. 11) and customer satisfaction represents an insufficient indicator for customer loyalty (Narayandas 2005, p. 136), the impact of the *relationship quality dimensions* on the *relationship loyalty dimensions* has been investigated. As *social exchange theory* provides an explanation for the continuation of relationships, it represents the theoretical foundation for this investigation.

The *ninth* hypothesis refers to the impact of *relationship trust* on the *relationship loyalty dimensions.* The findings of Doney and Cannon (1997, p. 45) convey that trust in the supplier firm (directly) and trust in seller firm employees (indirectly) enhances customers' repurchase intentions. More recently, La and Choi (2012) suggested that "[i]f a service provider fails to restore customer trust after a service recovery, it will be difficult in convincing customers to re-patronize" (p. 120). According to *social exchange theory*, mutual trust between exchange partners is developed based on the reciprocation of future obligations (Blau 1964, p. 99). Based on the trust that these obligations will be fulfilled in future, exchange partners will continue the exchange relationship (Thibaut and Kelley 1959, p. 65). To sustain the exchange relationship, customer firms will continue their purchases of products and services from the seller firm. Furthermore, *relationship trust* was found to positively affect customers' *expansion intentions* (Selnes 1998, p. 317). According to *social exchange theory,* mutual trust of the exchange partners facilitates further commitments (i.e. investments) to the exchange relationship (Blau 1964, p. 99), which results in neglecting alternative relationships (Thibaut and Kelley 1959, p. 65). Due to the negligence of alternative relationships, customer firms will increase their purchases of products or services from the seller firm. According to prior literature, customers reflect a higher willingness to pay higher prices when they derive additional benefits from the products or services of their suppliers (Pihlström and Brush 2008, p. 748). Empirical findings reflect that customers are willing to pay more for products or services when the salesperson of the seller firm has profoundly understood their requirements (Homburg, Wieseke and Bornemann 2009, p. 75). Based on *social exchange theory*, the mutual trust of exchange partners in the exchange relationship increases the commitment to the exchange relationship (Blau 1964, p. 66). Based on the negligence of alternative relationships, the dependence of the exchange partner on the exchange relationship increases (Thibaut and Kelley 1959, p. 115). Due to the higher dependence on the exchange relationship, customer firms are more likely to pay higher prices or accept price increases for the products or services of the seller firm. Accordingly, it is hypothesized that *relationship trust* is positively related to the *relationship loyalty* dimensions. Thus, the following hypotheses have been derived:

H_{9a}: Relationship trust has a positive impact on customers' repurchase intentions.

H_{9b}: Relationship trust has a positive impact on customers' expansion intentions.

H_{9c}: Relationship trust has a positive impact on customers' willingness to pay more.

The *tenth* hypothesis refers to the impact of *relationship commitment* on the *relationship loyalty dimensions*. The findings of Kelley and Davis (1994, p. 54) reflect that customer commitment towards the relationship leads to higher intentions to maintain the relationship. Tsiros, Ross and Mittal (2009, p. 272) identified that relationship commitment restricts the exploration of alternative relationships and limits activities towards these relationships. According to *social exchange theory,* mutual trust of the exchange partners in the relationships reflects trust in the fulfillment of future obligations by the exchange partners (Blau 1964, p. 99). Based on the reciprocation of future obligations, the exchange relationship is stabilized (Homans 1958, p. 606). To maintain the exchange relationship, customer firms will continue their purchases of products and services from the seller firm. Based on the findings of Ulaga and Eggert (2006, p. 321), relationship commitment was found to enhance the expansion intentions of the customer firm. Homburg, Giering and Menon (2003, p. 38) noted that committed customers firms are willing to accept temporary sacrifices to attain continuous benefits from the relationship. On the basis of *social exchange theory*, the extension of exchange relationships requires mutual investments by the exchange partners, which stabilizes the exchange relationship (Homans 1958, p. 606). Based on their commitment to the exchange relationship, exchange partners will neglect alternative relationships (Thibaut and Kelley 1959, p. 65). To leverage the investments made to the exchange relationship, customer firms will increase their purchases of products or services from the seller firm. Due to the findings of Boshoff (1997, p. 117), relationship commitment was found to reflect positively upon the customer's willingness to pay more. Boshoff (1999) noted that "customers who stay are willing to spend more and are generally more willing to pay a premium for service excellence" (p. 117). According to *social exchange theory*, mutual commitment of the exchange partners lead to a higher dependency on the exchange relationship by the negligence of alternative relationships (Thibaut and Kelley 1959, p. 65). Based on this dependence on the relationship, customer firms are more likely to pay higher prices or accept price increases for the products or services of the seller firm. Therefore, it is hypothesized that *relationship commitment* is positively related to the *relationship loyalty dimensions* and the following hypotheses have been developed:

H_{10a}: Relationship commitment has a positive impact on customers' repurchase intentions.

H_{10b}: Relationship commitment has a positive impact on customers' expansion intentions.

H_{10c}: Relationship commitment has a positive impact on customers' willingness to pay more.

The *eleventh* hypothesis refers to the impact of *relationship satisfaction* on the *relationship loyalty dimensions*. The findings of Selnes (1998, p. 306) reflect that the continuation of relationships is determined by customer satisfaction with the seller firm. Garbarino and Johnson (1999, p. 82) noted that repurchase intentions are determined by satisfaction, specifically for customers with a low relational orientation. According to *social exchange theory*, exchange partners deriving benefits from the exchange relationship, which exceed their expectations (i.e. CL) and the benefits of alternative relationships (i.e. CL_{alt}) will continue the exchange relationship (Thibaut and Kelley 1959, p. 65). To maintain the satisfactory relationship and receive the resulting benefits, customer firms will continue buying products and services from the seller firm. Based on the findings of Selnes (1998, p. 317), satisfaction with the relationship has a positive impact on customer intentions to expand the relationship with the seller firm. More specifically, Selnes (1998) noted that "[c]ustomers' experiences and satisfaction with the supplier appears to be a necessary premiss in order to achieve not only continuity, but also enhancement in the relationship" (p. 318). Dorsch, Swanson and Kelley (1998, p. 129) found that relationships exceeding customer expectations result in the extension of the relationship. As argued by *social exchange theory*, exchange partners receiving benefits from the exchange relationship that exceed their expectations (i.e. CL) and the benefits of alternative relationships (i.e. CL_{alt}) will expand the exchange relationship (Thibaut and Kelley 1959, p. 65). To derive these benefits from the relationship, customer firms will expand their purchases of products or services from the seller firm. Bolton (1998, p. 46) suggested that higher levels of customer satisfaction enable seller firms to charge higher prices for their products or services. Hutt and Speh (2004, p. 104) argued that customer firms are willing to accept higher prices for products or services from seller firms when these are important to their operations. Similarly, Narayandas (2005, p. 133) noted that for tangible nonfinancial benefits, customer firms are willing to pay premium prices. In contrast, Homburg, Wieseke and Hoyer (2009, p. 47) did not find a significant relationship between customer satisfaction and willingness to pay. According to *social exchange theory*, exchange partners will continue the exchange relationship if benefits are derived from the relationship that exceed their expectations (i.e. CL) and the benefits from alternative relationships (i.e. CL_{alt}) despite higher exchange costs (Thibaut and Kelley 1959, p. 65). To maintain the satisfactory exchange relationship, customer firms are likely to pay higher prices for the products or services from the seller firm. Accordingly, it is hypothesized that *relationship satisfaction* is positively related to the *relationship loyalty dimensions* and the subsequent hypotheses were derived:

H_{11a}: Relationship satisfaction has a positive impact on customers' repurchase intentions.

H_{11b}: Relationship satisfaction has a positive impact on customers' expansion intentions.

H_{11c}: Relationship satisfaction has a positive impact on customers' willingness to pay more.

5.3.3.2 Development of hypotheses related to moderating effects

The hypothesis H_{12} is related to the *moderating effects* of contextual variables on the relationship between the *recovery dimensions* and the *relationship quality dimensions*. As reflected by recovery literature, the effectiveness of recovery is dependent on contextual factors (e.g., Grewal, Roggeveen and Tsiros 2008; Worsfold, Worsfold and Bradley 2007). In particular, Worsfold, Worsfold and Bradley (2007) noted that the "contextual sensitivity" of recovery strategies needs to be observed (p. 2515). To capture the contextual conditions of recovery in the present investigation, the moderating variable *severity of failure* has been considered.

The *twelfth* hypothesis is related to the impact of the context variable *severity of failure* on the relationship between *recovery dimensions* and *relationship quality dimensions*. Several studies have recognized that the severity of the failure determines the effectiveness of recovery (e.g., McCollough, Berry and Yadav 2000; Weun, Beatty and Jones 2004; Worsfold, Worsfold and Bradley 2007). In particular, Kelley, Hoffman and Davis (1993) noted that "researchers investigating failures and recoveries should also consider the magnitude of the failure experienced by the customer" (p. 449). Prior research has identified that customer evaluations of recovery decrease with the severity of the failure situation (Smith, Bolton and Wagner 1999, p. 369) and that it is more difficult to recover from high severity failures than from low severity failures (Miller, Craighead and Karwan 2000, p. 392). Furthermore, Weun, Beatty and Jones (2004, p. 138) found that the severity of failures has a negative effect on trust and commitment towards the seller firm. Harris et al. (2006, p. 429) argued that recovery measures are more effective in low failure severity situations compared to high severity situations. Consequently, Kim and Ulgado (2012, p. 163) recommended to provide different levels of recovery depending on the severity of the failure situation. In line with *equity theory*, customer satisfaction is significantly determined by the size of the loss incurred by the failure situation and differs based on the severity of the failure. Thus, Smith, Bolton and Wagner (1999) argued that "as the size of the loss due to a failure gets larger, the customer will view the exchange as more inequitable and be dissatisfied" (p. 358). Due to the criticality of the severity of failure, it is assumed that recovery measures exert a stronger impact on the relationship quality between seller and customer firm in *low severity failure situations* compared to *high severity failure situations*. Consequently, it is hypothesized that the *severity of failure* reflects negatively on the relationship between *recovery dimensions* and *relationship loyalty dimensions*. The following hypotheses have been developed:

H_{12}: The severity of failure has a negative impact on the relationship

a.) between the recovery dimensions and relationship trust

b.) between the recovery dimensions and relationship commitment

c.) between the recovery dimensions and relationship satisfaction

The hypotheses related to the *main effects* and *moderating effects* were developed in the *recovery relationship model* as the basis for the following investigation and are depicted in figure 5.8.

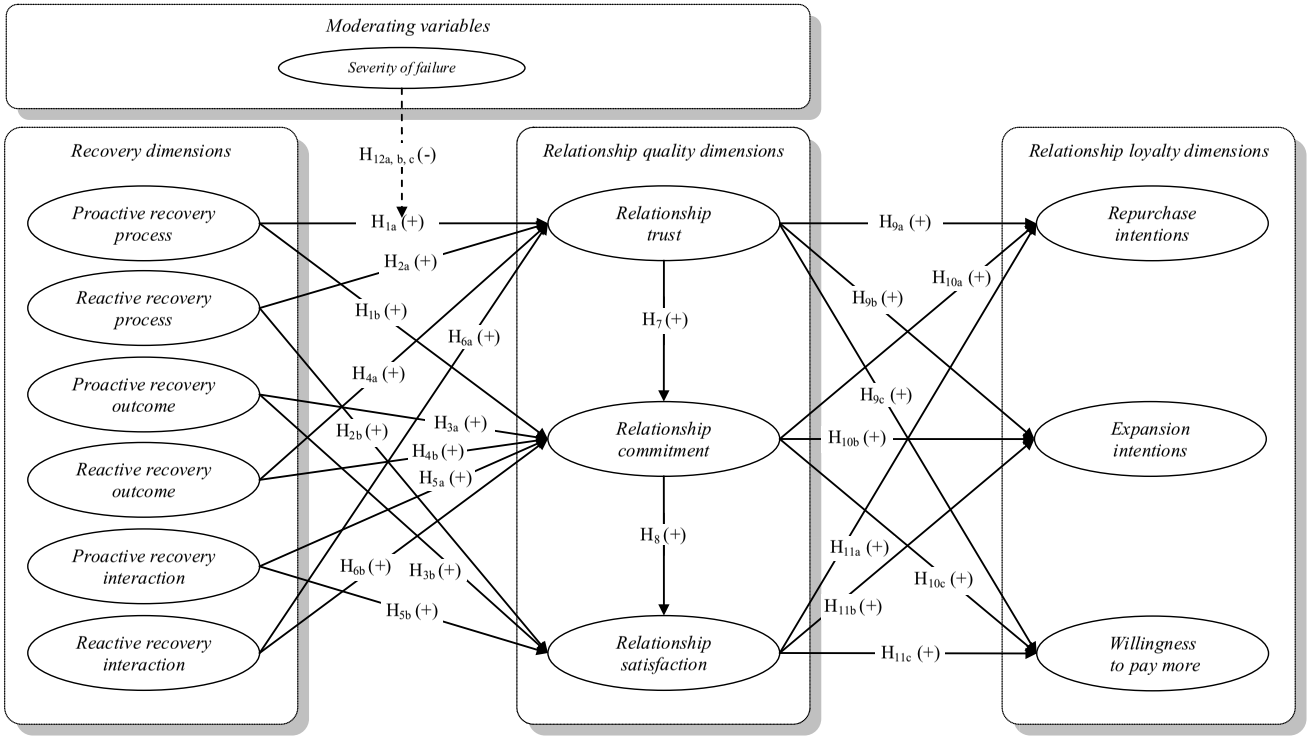


Figure 5.8: Hypotheses related to recovery relationship model

Source: own illustration

5.3.4 Measurement of constructs

Since suitable measurement scales for the *recovery dimensions* were not available in contemporary literature, new measurement scales had to be developed for this investigation. The development of measurement items for the *recovery dimensions* was based on current recovery literature (cf. paragraph 2.2) and findings from the qualitative interviews (cf. paragraph 4.3). The measurement scales for the *relationship quality dimensions* and the *relationship loyalty dimensions* were derived from existing literature. To comprise the theoretical scope of the constructs, multiple-item scales were used for the investigation. In particular, the respondents of the quantitative investigation were asked to reflect their level of agreement or disagreement with the statements in the questionnaire based on seven-point Likert-type scales ranging from *"strongly disagree"* (1) to *"strongly agree"* (7). The measurement scales related to the *recovery relationship model* are stated in appendix 4.

The *recovery dimension* constructs were based on the dimensions of recovery management as developed in paragraph 4.4. The constructs of the recovery dimensions used in the *recovery relationship model* were measured by *reflective indicators*. The reflective specification of the recovery dimension constructs was intended to allow the verification of reliability and validity of the measurement model and ensure a consistent measurement specification across the causal model. Since the objective of the recovery relationship model was the analysis of the relationships between recovery dimensions and relationship dimensions, these constructs have been specified and measured as *reflective constructs*. The construct *proactive recovery process (PRP)* was measured by the reflective indicators *PRP1*, *PRP2* and *PRP3*. The construct *proactive recovery outcome (PRO)* was calculated by the reflective indicators *PRO1*, *PRO2* and *PRO3*. The construct *proactive recovery interaction (PRI)* was assessed by the reflective indicators *PRI1*, *PRI2* and *PRI3*. The construct *reactive recovery process (RRP)* was measured by the reflective indicators *RRP1*, *RRP2* and *RRP3*. The construct *reactive recovery outcome (RRO)* was evaluated by the reflective indicators *RRO1*, *RRO2* and *RRO3*. The construct *reactive recovery interaction (RRI)* was operationalized by the reflective indicators *RRI1*, *RRI2* and *RRI3*. The measurement properties related to the *recovery dimensions* are presented in table 5.1.

Construct	Measure-ment item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Proactive recovery process (PRP)	PRP1	.810	6.827	.940	.959	.887
	PRP2	.898	7.389			
	PRP3	.954	7.698			
Proactive recovery outcome (PRO)	PRO1	.841	7.238	.945	.965	.901
	PRO2	.950	9.916			
	PRO3	.908	9.110			
Proactive recovery interaction (PRI)	PRI1	deleted	deleted	.923	.962	.927
	PRI2	.911	19.342			
	PRI3	.943	21.554			
Reactive recovery process (RRP)	RRP1	.965	4.998	.914	.921	.797
	RRP2	.801	4.498			
	RRP3	.624	3.919			
Reactive recovery outcome (RRO)	RRO1	.801	5.139	.889	.914	.780
	RRO2	.681	4.491			
	RRO3	.857	5.741			
Reactive recovery interaction (RRI)	RRI1	.380	3.078	.916	.877	.711
	RRI2	.834	5.697			
	RRI3	.919	5.755			

Table 5.1: Measurement properties of recovery dimensions

Source: own illustration

The *relationship quality dimensions* were captured by the constructs *relationship trust*, *relationship commitment* and *relationship satisfaction*. The construct *relationship trust (RELTRU)* was measured by the reflective indicators *RELTRU1*, *RELTRU2* and *RELTRU3*, which were adopted from the measurement scale developed by Ulaga and Eggert (2006, p. 320). The construct *relationship commitment (RELCOM)* was calculated based on the reflective indicators *RELCOM1*, *RELCOM2* and *RELCOM3* derived from the measurement scale defined by Ulaga and Eggert (2006, p. 320). The construct *relationship satisfaction (RELSAT)* was measured by the reflective indicators *RELSAT1*, *RELSAT2* and *RELSAT3*, which were based on the measurement scale derived from Ulaga and Eggert (2006, p. 320). The measurement properties related to the *relationship quality* constructs are reflected by table 5.2.

Construct	Measurement item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Relationship trust (RELTRU)	RELTRU1	.596	10.179	.769	.865	.682
	RELTRU2	.760	39.595			
	RELTRU3	.689	16.588			
Relationship commitment (RELCOM)	RELCOM1	.707	18.831	.805	.884	.717
	RELCOM2	.640	13.993			
	RELCOM3	.805	31.445			
Relationship satisfaction (RELSAT)	RELSAT1	.855	47.059	.922	.950	.864
	RELSAT2	.864	66.901			
	RELSAT3	.873	54.589			

Table 5.2: Measurement properties of relationship quality dimensions

Source: own illustration

The *relationship loyalty dimensions* were assessed by the constructs *repurchase intentions*, *expansion intentions* and *willingness to pay more.* The construct *repurchase intentions (REPINT)* was measured by the reflective indicators *REPINT1, REPINT2* and *REPINT3*, which were based on the measurement scale developed by Homburg, Giering and Menon (2003, p. 53). The construct *expansion intentions (EXPINT)* was measured by the reflective indicators *EXPINT1*, *EXPINT2* and *EXPINT3*, which were adapted from the measurement scale developed by Cannon and Homburg (2001, p. 42). The construct *willingness to pay more* was measured by the reflective indicators *WTPM1* and *WTPM2*, which were derived from the measurement scale developed by Zeithaml, Berry and Parasuraman (1996, p. 38).

The measurement properties associated with the *relationship loyalty* constructs are illustrated by table 5.3.

Construct	Measurement item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Repurchase intentions (REPINT)	REPINT1	.872	45.961	.933	.957	.882
	REPINT2	.894	53.831			
	REPINT3	.879	51.336			
Expansion intentions (EXPINT)	EXPINT1	.890	53.647	.953	.970	.914
	EXPINT2	.942	137.552			
	EXPINT3	.912	97.280			
Willingness to pay more (WTPM)	WTPM1	.785	28.906	.705	.872	.772
	WTPM2	.760	26.952			

Table 5.3: Measurement properties of relationship loyalty dimensions

Source: own illustration

The construct *severity of failure (SEVFAL)* was measured by the reflective indicators SEVFAL1, SEVFAL2 and SEVFAL3 based on the measurement scale developed by Miller, Craighead and Karwan (2000, p. 399). Since the severity of failures needs to be evaluated from a customer perspective (Smith, Bolton and Wagner 1999, p. 358), the construct was measured at the customer firm level. The measurement properties related to the *moderating variable* are stated in table 5.4.

Construct	Measurement item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Severity of failure (SEVFAL)	SEVFAL1	.867	6.586	.831	.892	.734
	SEVFAL2	.658	5.439			
	SEVFAL3	.679	5.051			

Table 5.4: Measurement properties of severity of failure

Source: own illustration

As discussed in paragraph 5.2.2, the *reliability* and *validity* of the empirical findings needs to be assessed before conclusions can be derived from the results of the empirical investigation. The *construct reliability* of the latent variables was assessed based on the *Cronbach's alpha* measure (Cronbach 1951, p. 331). Since the Cronbach's alpha values of all constructs in the model exceeded the established threshold of .70 for novel research (Nunnally 1978, p. 245) and this investigation represents the initial exploration of the relational consequences of recovery in business markets, an appropriate level of construct reliability is assumed. The *composite reliability* of constructs has been suggested as a preferred measure for the evaluation of the reliability of a latent variable since it considers the number of indicators (Chin 1998, p. 320). Since the *CR* values of all constructs were higher than the recommended threshold of .60 (Bagozzi and Yi 1988, p. 82), an adequate level of composite reliability is assumed. The *indicator reliability* of the measurement items was assessed by the factor loading of the indicators on the latent variable. According to literature, a threshold of .40 has been recommended to reflect a sufficient degree of indicator reliability (Hulland 1999, p. 198). Due to an insufficient level of indicator reliability (r = .139), the indicator PRI1 was eliminated from the measurement model. Although the indicator RRI3 reflected a value (r = .380) below the recommended threshold, it was retained due to the overall validity of the measurement model. Since all other indicators reflected values above the suggested threshold, an appropriate level of indicator reliability is confirmed. The *discriminant validity* of the indicator variables was evaluated based on the cross loadings of the indicators and the Fornell-Larcker criterion. The *cross loadings* of each indicator to its assigned latent variable are supposed to be larger than the cross loadings to any other latent variable (Chin 1998, p. 321). The loadings of the indicators related to the assigned constructs generally exceeded the loadings related to the other constructs. According to the *Fornell-Larcker* criterion, the AVE of a construct should be larger than the squared correlations of the construct with any other construct (Fornell and Larcker 1981, p. 45). Since the AVE values of the constructs exceeded the squared correlations with all other constructs (cf. table 5.5), a suitable level of discriminant validity is assumed. The *convergent validity* of the constructs was assessed based on *construct validity* and *average variance extracted* (Bagozzi and Phillips 1982, p. 468). The *construct validity* was evaluated based on the results of the *t-statistics* of the relationships between the indicators and the latent variables. The t-values of the factor loadings were calculated by the *bootstrapping* procedure based on 1000 samples and 103 cases as recommended by literature (Bagozzi, Yi and Phillips 1991, p. 434). The empirical t-values of all factor loadings were larger than 1.645 based on a *one-sided test* and a *confidence interval of five percent*. Since the AVE values also exceeded the threshold of .50 (Fornell and Larcker 1981, p. 45), an appropriate level of convergent validity is assumed. The *predictive validity* of the constructs was measured by the *Stone-Geisser criterion* Q^2, which compares the calculated residuals of the indicator variables with the residuals of a simple estimation based on the *blindfolding procedure* (Fornell and Cha 1994, p.

72). Since the Q^2 values of the *communalities* were above 0 for all latent variables, an adequate level of predictive validity is assumed.

Latent variable correlations	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Proactive recovery process	**.89**											
2. Reactive recovery process	.23	**.80**										
3. Proactive recovery outcome	.60	.17	**.90**									
4. Reactive recovery outcome	.50	.39	.61	**.78**								
5. Proactive recovery interaction	.11	.35	.12	.25	**.93**							
6. Reactive recovery interaction	.05	.37	.09	.32	.39	**.71**						
7. Relationship trust	.00	.01	.02	.01	.01	.01	**.68**					
8. Relationship commitment	.01	.01	.01	.01	.02	.01	.12	**.72**				
9. Relationship satisfaction	.00	.02	.02	.00	.04	.01	.57	.19	**.86**			
10. Repurchase intentions	.01	.00	.03	.02	.03	.00	.32	.20	.46	**.88**		
11. Expansion intentions	.02	.05	.00	.00	.06	.03	.19	.16	.41	.43	**.91**	
12. Willingness to pay more	.00	.02	.02	.01	.05	.01	.14	.13	.24	.28	.25	**.77**

Notes: The values stated on the diagonal axis (in bold) reflect the average variance extracted of the constructs. The values stated in the other fields reflect the squared correlations between the respective constructs.

Table 5.5: Analysis of discriminant validity related to recovery relationship model

Source: own illustration

In conclusion, the evaluation criteria related to the measurement models reflect an appropriate level of reliability and validity. The empirical results represent a suitable foundation for the quantitative investigation to derive insights on the hypothesized relationships postulated in the structural model.

5.3.5 Results of hypothesis testing

The hypotheses developed in paragraph 5.3.3 were empirically examined based on variance-based estimation procedures (i.e. PLS) with the software *SmartPLS 2.0* (cf. Ringle, Wende and Will 2005). The results of the hypothesis testing on the structural relationships in the *recovery relationship model* have been separated into the results of the *hypotheses related to main effects* (paragraph 5.3.5.1) and the *hypotheses related to moderating effects* (paragraph 5.3.5.2).

5.3.5.1 Results of hypothesis testing related to main effects

The *hypotheses related to the main effects* ($H_1 - H_{11}$) were empirically tested based on the PLS approach presented in paragraph 5.2.2.1. The structural model of the investigation (cf. figure 5.7) comprises the *recovery dimensions* as exogenous variables ($\zeta_1 - \zeta_6$) as well as the *relationship quality dimensions* and the *relationship loyalty dimensions* as endogenous variables ($\eta_1 - \eta_6$). Furthermore, the structural model comprises the path coefficients of the effects between the *exogenous* and *endogenous variables* ($\gamma_{11} - \gamma_{36}$) and the effects among the *endogenous variables* ($\beta_{41} - \beta_{63}$).

The assessment of structural models based on variance-based estimation procedures reflects specific characteristics as *global quality criteria* are not existent (Ringle and Spreen 2007, p. 216) and only *local quality criteria* are available for partial models (Huber et al. 2007, p. 12). For the evaluation of the structural model the following evaluation criteria have been considered. The *strength* and *significance* of the regression coefficients constitute important indicators for the reliability of the structural model. The *path coefficient (pc)* conveys the impact and the direction of the relationship between the exogenous and the endogenous variables. The significance of the path coefficient is evaluated based on *t-statistics* resulting from the *bootstrapping procedure* based on 1000 samples and 103 cases. On the basis of a *one-sided test* and a *significance interval of 10 percent* ($\alpha = .10$) with 100 degrees of freedom, the critical t-value (t_c) is 1.296. The empirical t-value (t_{emp}) of the regression coefficients has to be equal or above the critical t-value to be considered as significant. The results of hypothesis testing on the structural relationships between the *recovery dimensions* and the *relationship quality dimensions* are summarized by table 5.6, whereas the results of hypothesis testing on the relationship between the *relationship quality dimensions* and the *relationship loyalty dimensions* are illustrated by table 5.7. The *coefficient of determination (R^2)* attains a fundamental measure for the validity of the structural model (Krafft, Götz and Liehr-Gobbers 2005, p. 83). The *R^2 measure* indicates the level of explained variance of an endogenous latent variable by the exogenous latent variables. With respect to the research context, the construct *relationship trust* reflects a low level of explained variance ($R^2 = .083$), whereas the constructs *relationship commitment* ($R^2 = .207$) and *relationship satisfaction* ($R^2 = .240$) convey a moderate level of explained variance (cf. table 5.10). In contrast, the constructs *repurchase intentions* ($R^2 = .496$) and *expansion intentions* ($R^2 = .437$) reflect a substantial level of explained variance, whereas the construct *willingness to pay more* ($R^2 = .269$) obtains a moderate level of explained variance. With one exception (i.e. relationship trust), the empirical findings from the *recovery relationship model* reflect a considerable level of explained variance for the latent variables. Based on these empirical results, it is confirmed that the *recovery dimensions* exert a significant impact on the *relationship quality dimensions*, which in turn reflect a substantial impact on the *relationship loyalty dimensions* in business-to-business markets. The *Stone-Geisser criterion Q^2* constitutes a measure for the *predictive validity* of the structural

model (Fornell and Cha 1994, p. 72). On the basis of the *blindfolding procedure*, the Q^2 measure reflects the redundancies of the endogenous latent variables in the structural model. The redundancies of the endogenous variables reflect Q^2 values above 0, expect for the construct *relationship trust* (cf. table 5.8). Nevertheless, since the residuals of the model estimation are lower than the residuals of a simple estimation for the remaining constructs, the *predictive validity* of the structural model is assumed.

Endogenous variables	Relationship trust		Relationship commitment		Relationship satisfaction	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Proactive recovery process	.125	1.238	.424	2.308	--	--
Reactive recovery process	.196	1.612	--	--	.124	1.353
Proactive recovery outcome	--	--	-.158	1.060	-.197	2.510
Reactive recovery outcome	-.404	2.177	-.386	2.091	--	--
Proactive recovery interaction	--	--	.119	1.049	.124	1.424
Reactive recovery interaction	.151	1.348	.180	1.403	--	--
Relationship trust	--	--	.264	2.422	--	--
Relationship commitment	--	--	--	--	.386	4.230

Table 5.6: Path coefficients on relationship quality dimensions

Source: own illustration

Endogenous variables	Repurchase intentions		Expansion intentions		Willingness to pay more	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Relationship trust	.108	1.154	-.131	1.247	.001	.009
Relationship commitment	.186	1.971	.154	2.000	.177	1.925
Relationship satisfaction	.518	4.377	.674	6.358	.416	2.731

Table 5.7: Path coefficients on relationship loyalty dimensions

Source: own illustration

Endogenous variables	Coefficient of determination (R^2)	Stone-Geisser criterion (Q^2)
Relationship trust	.069	-.014
Relationship commitment	.211	.016
Relationship satisfaction	.235	.026
Repurchase intentions	.496	.115
Expansion intentions	.437	.091
Willingness to pay more	.269	.074

Table 5.8: Results of coefficient of determination and Stone-Geisser criterion
Source: own illustration

Due to the cumulative nature of the relationship quality dimensions, the customer evaluations of these constructs include the evaluation of prior failure situations and recovery encounters. In particular, a negative effect of the recovery measures on the relationship quality dimensions implies that the recovery measures were not able to fully compensate the negative effect of the failure situation, whereas a positive effect of the recovery measures on the relationship quality dimensions implies that the recovery measures were able to overcompensate the negative effect of the failure situation. This evaluation approach is consistent with prior research, which has called for an integrated modeling of customer evaluations and failure incidents (Backhaus and Bauer 2001, p. 47).

The *hypothesis* H_{1a} is not confirmed by the empirical data since *proactive recovery process* has a positive, but non-significant effect ($\gamma_{11} = .125$, n.s.) on *relationship trust*. Accordingly, the prevention, identification and notification of failures were found not to considerably increase customer trust in the relationship. In contrast, *hypothesis* H_{1b} is confirmed by the data as *proactive recovery process* has a significant, positive effect ($\gamma_{21} = .424$, $p < .05$) on *relationship commitment*. Therefore, the prevention, identification and notification of failures were identified to substantially raise the commitment of the customer to the relationship. The *hypothesis* H_{2a} is confirmed by the empirical results as *reactive recovery process* has a positive, significant effect ($\gamma_{12} = .196$, $p < .10$) on *relationship trust*. Consequently, the response, analysis and controlling of failures was found to reflect positively on the relationship trust of the customer. Furthermore, *hypothesis* H_{2b} is confirmed by the empirical data since *reactive recovery process* has a positive, significant effect ($\gamma_{22} = .124$, $p < .10$) on *relationship satisfaction*. The response, analysis and controlling of failures were identified to raise customer satisfaction with the relationship. The *hypothesis* H_{3a} is not confirmed by the empirical data since *proactive recovery outcome* has a negative, non-significant effect ($\gamma_{13} = -.158$, n.s.) on *relationship commitment*. Accordingly, the reduction and explanation of failures were found not

to impact customer commitment to the relationship. The *hypothesis H_{3b}* is not confirmed by the empirical data because *proactive recovery outcome* has a significant, but negative effect (γ_{33} = -.197, p < .01) on *relationship satisfaction*. In contrast to previous assumptions, the reduction and explanation of failures was found to substantially reduce customer satisfaction with the relationship. The *hypothesis H_{4a}* is not confirmed by the empirical findings as *reactive recovery outcome* has a significant, but negative effect (γ_{14} = -.404, p < .05) on *relationship trust*. The apology, resolution and compensation of failures were discovered to substantially reduce customer trust in the relationship. Furthermore, *hypothesis H_{4b}* is not confirmed by the data since *reactive recovery outcome* has a significant, but negative effect (γ_{24} = -.386, p < .05) on *relationship commitment*. Thus, apology, resolution and compensation of failures were found to considerably reduce the customer commitment to the relationship. The *hypothesis H_{5a}* is not confirmed by the empirical data because *proactive recovery interaction* has a positive, but non-significant effect (γ_{15} = .119, n.s.) on *relationship commitment.* Consequently, the initiative, rapport and explanation of employees were identified not to have a considerable impact on the commitment of the customer to the relationship. In contrast, *hypothesis H_{5b}* is confirmed by the data due to the fact that *proactive recovery interaction* has a positive, significant effect (γ_{35} = .124, p < .10) on *relationship satisfaction*. Consequently, the initiative, rapport and explanation of employees were found to significantly increase customer satisfaction with the relationship. The *hypothesis H_{6a}* is confirmed by the empirical data since *reactive recovery interaction* has a positive, significant effect (γ_{16} = .151, p < .10) on *relationship trust*. Accordingly, the reliability, commitment and courtesy of employees were discovered to increase customer trust in the relationship. Similarly, *hypothesis H_{6b}* is also confirmed by the empirical data as *reactive recovery interaction* has a positive, significant effect (γ_{26} = .180, p < .10) on *relationship commitment*. Hence, reliability, commitment and courtesy of employees were identified to increase customer commitment to the relationship. The *hypothesis H_7* is confirmed by the empirical data since *relationship trust* has a positive, significant effect (β_{12} = .264, p < .01) on *relationship commitment.* For this reason, customer trust in the relationship was found to result in higher customer commitment towards the relationship. The *hypothesis H_8* is also confirmed by the data as *relationship commitment* has a positive, significant effect (β_{32} = .386, p < .01) on *relationship satisfaction*. Based on these empirical results, customer commitment towards the relationship was discovered to lead to higher customer satisfaction with the relationship.

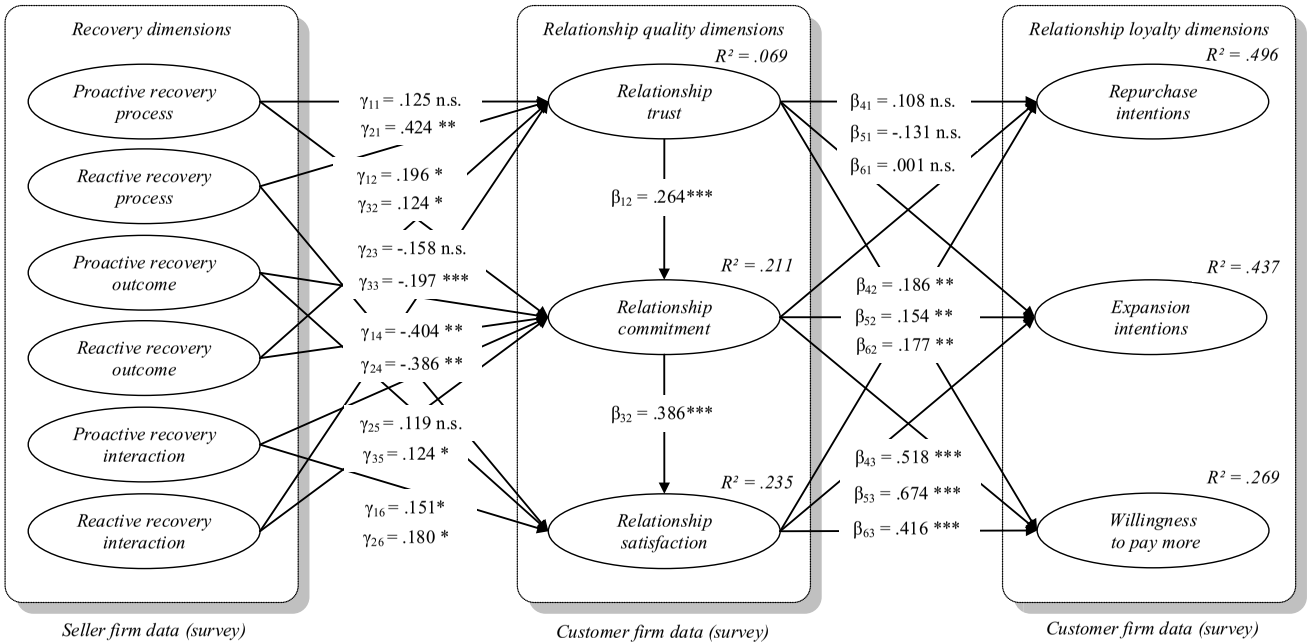
The *hypothesis H_{9a}* is not confirmed by the data due to the fact that *relationship trust* has a positive, but non-significant effect (β_{41} = .108, n.s.) on *repurchase intentions*. Therefore, customer trust in the relationship was found not to translate into higher customer intentions to continue purchases of products or services from the seller firm. The *hypothesis H_{9b}* is not confirmed by the empirical data as *relationship trust* has a negative, non-significant effect (β_{51} = -.131, n.s.) on *expansion intentions*. In contrast to prior assumptions, customer relationship

trust was identified not to transfer into higher customer intentions to expand purchases of products or services from the seller firm. The *hypothesis* H_{9c} is also not confirmed by the data since *relationship trust* has a positive, but non-significant effect (β_{61} = .001, n.s.) on *willingness to pay more*. Accordingly, customer trust in the relationship was found not to convert into higher customer intentions to pay higher prices for the products or services from the seller firm. The *hypothesis* H_{10a} is confirmed by the empirical data as *relationship commitment* has a significant, positive effect (β_{42} = .186, $p < .05$) on *repurchase intentions*. Hence, customer commitment to the relationship was discovered to translate into higher customer intentions to continue purchases of products and services from the seller firm. The *hypothesis* H_{10b} is confirmed by the data as *relationship commitment* has a positive, significant effect (β_{52} = .154, $p < .05$) on *expansion intentions*. Therefore, the commitment of customers to the relationship was disclosed to transform into higher customer intentions to expand purchases of products or services from the seller firm. In addition, *hypothesis* H_{10c} is confirmed by the empirical data since *relationship commitment* has a significant, positive effect (β_{62} = .177, $p < .05$) on *willingness to pay more*. Consequently, customer relationship commitment was found to translate into higher customer intentions to pay higher prices for the products or services from the seller firm. The *hypothesis* H_{11a} is also confirmed by the empirical data as *relationship satisfaction* has a significant, positive effect (β_{43} = .518, $p < .01$) on *repurchase intentions*. Thus, customer satisfaction with the relationship was identified to result in higher customer intentions to continue purchases of the products or services from the seller firm. The *hypothesis* H_{11b} is confirmed by the empirical data since *relationship satisfaction* has a positive, significant effect (β_{53} = .674, $p < .01$) on *expansion intentions*. Consequently, relationship satisfaction was found to translate into higher customer intentions to expand purchases of products or services from the seller firm. At last, *hypothesis* H_{11c} is also confirmed by the data due to the fact that *relationship satisfaction* has a positive, significant effect (β_{63} = .416, $p < .01$) on *willingness to pay more*. For this reason, the satisfaction of the customer was disclosed to transform into higher customer intentions to pay higher prices for the products or services from the seller firm. The majority of the hypotheses have been confirmed, which provides empirical support for the *recovery relationship model* (cf. table 5.9).

Hypotheses	Results
H1a: Proactive recovery process has a positive impact on relationship trust.	not supported (n.s.)
H1b: Proactive recovery process has a positive impact on relationship commitment.	supported ($p < .10$)
H2a: Reactive recovery process has a positive impact on relationship trust.	supported ($p < .10$)
H2b: Reactive recovery process has a positive impact on relationship satisfaction.	supported ($p < .10$)
H3a: Proactive recovery outcome has a positive impact on relationship commitment.	not supported (n.s.)
H3b: Proactive recovery outcome has a positive impact on relationship satisfaction.	not supported ($p<.01$)
H4a: Reactive recovery outcome has a positive impact on relationship trust.	not supported ($p<.05$)
H4b: Reactive recovery outcome has a positive impact on relationship commitment.	not supported ($p<.05$)
H5a: Proactive recovery interaction has a positive impact on relationship commitment.	not supported (n.s.)
H5b: Proactive recovery interaction has a positive impact on relationship satisfaction.	supported ($p < .10$)
H6a: Reactive recovery interaction has a positive impact on relationship trust.	supported ($p < .10$)
H6b: Reactive recovery interaction has a positive impact on relationship commitment.	supported ($p < .10$)
H7: Relationship trust has a positive impact on relationship commitment.	supported ($p < .01$)
H8: Relationship commitment has a positive impact on relationship satisfaction.	supported ($p < .01$)
H9a: Relationship trust has a positive impact on repurchase intentions.	not supported (n.s.)
H9b: Relationship trust has a positive impact on expansion intentions.	not supported (n.s.)
H9c: Relationship trust has a positive impact on willingness to pay more.	not supported (n.s.)
H10a: Relationship commitment has a positive impact on repurchase intentions.	supported ($p < .05$)
H10b: Relationship commitment has a positive impact on expansion intentions.	supported ($p < .05$)
H10c: Relationship commitment has a positive impact on willingness to pay more.	supported ($p < .05$)
H11a: Relationship satisfaction has a positive impact on repurchase intentions.	supported ($p < .01$)
H11b: Relationship satisfaction has a positive impact on expansion intentions.	supported ($p < .01$)
H11c: Relationship satisfaction has a positive impact on willingness to pay more.	supported ($p < .01$)

Table 5.9: Results of hypothesis testing related to recovery relationship model
Source: own illustration

In conclusion, the empirical results of the hypothesis testing related to the *main effects* of the *recovery relationship model* are illustrated by figure 5.9.



*Notes: Completely standardized coefficients are shown; significance levels: * p < .10 ** p < .05 *** p < .01*

Figure 5.9: Results of hypothesis testing related to recovery relationship model

Source: own illustration

Since the evaluation of structural models based on *direct effects* reflects only a limited perspective, prior research has suggested that the investigation of *indirect effects* may derive additional, relevant information. In particular, Homburg, Pflesser and Klarmann (2008, p. 570) proposed the evaluation of *total effects*, which are calculated by the sum of the *direct effect* and all other *indirect effects*. To provide a holistic perspective on the *relational consequences of recovery management* in business-to-business markets, the *total effects* of the *recovery dimensions* on the *relationship quality dimensions* as well as the *relationship loyalty dimensions* have been assessed.

The evaluation of the *total effects* of the *recovery dimensions* on the *relationship quality dimensions* draws a *heterogeneous perspective* on the relational consequences of recovery in business markets. The results reflect that *proactive recovery process* has a positive, significant impact on *relationship commitment* ($\beta = .457$, $p < .05$) and *relationship satisfaction* ($\beta = .176$, $p < .05$), whereas *proactive recovery interaction* has a positive, significant impact on *relationship satisfaction* ($\beta = .169$, $p < .10$). More specifically, the total effects of proactive recovery process on relationship commitment have been calculated as the sum of the direct effect on relationship commitment and the indirect effect mediated by relationship trust ($.424 + .125 \times .264 = .457$). Therefore, the prevention, identification and notification of failures substantially increase the *relationship commitment* and *relationship satisfaction* of the customer, while the initiative, rapport and feedback of employees considerably raise the *relationship satisfaction* of the customer. In contrast, the results reveal that *proactive recovery outcome* exerts a significant, negative impact on *relationship satisfaction* ($\beta = -.258$, $p < .05$), whereas *reactive recovery outcome* reflects a significant, negative impact on *relationship trust* ($\beta = -.404$, $p < .10$), *relationship commitment* ($\beta = -.493$, $p < .05$) and *relationship satisfaction* ($\beta = -.190$, $p < .10$). Consequently, the reduction and explanation of failures decrease the *relationship satisfaction* of the customer, while the apology, resolution and compensation of failures reduce the *relationship trust* and *relationship commitment* of the customer. The results of the total effects of the *recovery dimensions* on the *relationship quality dimensions* are illustrated by table 5.10.

Endogenous variables	Relationship trust		Relationship commitment		Relationship satisfaction	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Proactive recovery process	.125	.749	.457	2.203	.176	2.052
Reactive recovery process	.196	1.111	.052	.857	.144	.886
Proactive recovery outcome	--	--	-.158	.826	-.258	2.102
Reactive recovery outcome	-.404	1.598	-.493	2.083	-.190	1.831
Proactive recovery interaction	--	--	.119	.845	.169	1.564
Reactive recovery interaction	.151	.779	.220	1.008	.085	.951

Table 5.10: Total effects of recovery dimensions on relationship quality dimensions
Source: own illustration

The assessment of the *total effects* of the *recovery dimensions* on the *relationship loyalty dimensions* draws a similar perspective on the relational consequences of recovery in the context of business-to-business markets. In particular, the analysis reveals that *proactive recovery process* has a significant, positive impact on *repurchase intentions* ($\beta = .190$, $p < .05$), *expansion intentions* ($\beta = .173$, $p < .05$) and *willingness to pay more* ($\beta = .154$, $p < .05$). Therefore, the prevention, identification and notification of failures substantially increase customer intentions to purchase current and other products or services from the seller firm and pay higher prices for the products or services. The findings reflect a positive, significant effect of *proactive recovery interaction* on *repurchase intentions* ($\beta = .110$, $p < .10$), *expansion intentions* ($\beta = .132$, $p < .10$) and *willingness to pay* ($\beta = .092$, $p < .10$). The initiative, rapport and feedback of employees considerably increases customer intentions to continue and expand its purchases of products or services from the seller firm and accept higher prices for these products or services. In contrast, the results of the analysis convey that *proactive recovery outcome* has a significant, negative impact on *repurchase intentions* ($\beta = -.163$, $p < .05$), *expansion intentions* ($\beta = -.198$, $p < .05$) and *willingness to pay more* ($\beta = -.135$, $p < .10$). Consequently, the reduction and explanation of failures reduce the customer intentions to purchase current and other products or services from the seller firm and pay higher prices for these products or services in future. The findings further illustrate that *reactive recovery outcome* has a negative, significant impact on *repurchase intentions* ($\beta = -.234$, $p < .05$), *expansion intentions* ($\beta = -.151$, $p < .10$) and *willingness to pay more* ($\beta = -.167$, $p < .05$). Accordingly, the apology, resolution and compensation of failures decrease customer intentions to continue and expand purchases of products or services from the seller firm and agree to higher prices for these products or services. The results of the total effects of the *recovery dimensions* on the *relationship loyalty dimensions* are illustrated by table 5.11.

Endogenous variables	Repurchase intentions		Expansion intentions		Willingness to pay more	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Proactive recovery process	.190	1.913	.173	1.898	.154	1.856
Reactive recovery process	.105	.959	.079	.771	.069	.886
Proactive recovery outcome	-.163	1.688	-.198	1.793	-.135	1.466
Reactive recovery outcome	-.234	1.982	-.151	1.540	-.167	1.747
Proactive recovery interaction	.110	1.374	.132	1.439	.092	1.364
Reactive recovery interaction	.101	.992	.071	.801	.074	.956

Table 5.11: Total effects of recovery dimensions on relationship loyalty dimensions

Source: own illustration

5.3.5.2 Results of hypothesis testing related to moderating effects

The results of the hypothesis related to *moderating effects* (H_{12}) are derived from *moderated regression analysis* (cf. paragraph 5.2.2.2). According to prior literature, the analysis of moderating effects is important since complex relationships are generally influenced by context variables (Chin, Marcolin and Newsted 2003, p. 193). Therefore, the effects of the *severity of failure* on the relationship between *recovery dimensions* and *relationship quality dimensions* have been investigated.

The *hypotheses* $H_{12a\text{-}c}$ are related to the impact of the *severity of failure* on the relationship between the *recovery dimensions* and the *relationship quality dimensions*. The construct *severity of failure* represents a *continuous variable*. As suggested by quantitative research literature, these hypotheses were empirically tested based on the *moderated regression analysis* and the *interaction term approach* (Götz and Liehr-Gobbers 2004, p. 725). On the basis of established procedures, the moderating variable *severity of failure* was introduced into the structural model. For the evaluation of the moderating effect, a separate interaction variable was calculated based on the multiplication of the indicators of the exogenous and the moderating variable. Subsequently, the resulting interaction term was tested for its impact and significance on the endogenous variable (Eggert, Fassott and Helm 2005, p. 109). The results of the moderated regression analysis are stated in table 5.12.

Endogenous variables	Relationship trust		Relationship commitment		Relationship satisfaction	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Hypotheses	H_{12a}		H_{12b}		H_{12c}	
Main effects						
Proactive recovery process	.119	1.218	.420	2.194	--	--
Reactive recovery process	.207	1.671	--	--	.123	1.301
Proactive recovery outcome	--	--	-.149	.949	-.198	2.491
Reactive recovery outcome	-.401	2.298	-.392	2.165	--	--
Proactive recovery interaction	--	--	.122	1.111	.124	1.355
Reactive recovery interaction	.147	1.263	.181	1.341	--	--
Severity of failure	.147	1.599	.082	.912	-.025	.414
Interaction effects						
Proactive process x severity of failure	-.120	1.351	-.104	1.432	--	--
Reactive process x severity of failure	-.163	1.989	--	--	-.172	2.789
Proactive outcome x severity of failure	--	--	-.094	1.413	-.067	.721
Reactive outcome x severity of failure	-.114	.956	-.098	1.228	--	--
Proactive interaction x severity of failure	--	--	-.086	1.530	-.128	1.983
Reactive interaction x severity of failure	-.178	1.861	-.132	1.873	--	--
Effect sizes						
Proactive process x severity of failure	.015		.013		--	
Reactive process x severity of failure	.025		--		.034	
Proactive outcome x severity of failure	--		.010		.005	
Reactive outcome x severity of failure	.012		.010		--	
Proactive interaction x severity of failure	--		.009		.020	
Reactive interaction x severity of failure	.030		.018		--	
Notes: Standardized indicator values before multiplication were used						

Table 5.12: Results of hypothesis testing related to moderating variable

Source: own illustration

The findings reflect that *severity of failure* has a significant, negative effect on the relationship between the *recovery dimensions* and the *relationship quality dimensions*. The empirical results reflect a significant, negative moderating effect ($p < .10$) of *severity of failure* on the relationship of *proactive recovery process*, *reactive recovery process* and *reactive recovery*

interaction with *relationship trust*. The impact of severity of failure on the relationship between *reactive recovery outcome* and *relationship trust* was not significant. Accordingly, *hypothesis* H_{12a} is partially confirmed. Furthermore, the empirical results illustrate that *severity of failure* has a significant, negative impact ($p < .10$) on the relationship between *proactive recovery process, proactive recovery outcome, proactive recovery interaction* and *reactive recovery interaction* with *relationship commitment.* The effect of the severity of failure on the relationship between *reactive recovery outcome* and *relationship commitment* was non-significant. Thus, the *hypothesis* H_{12b} is partially confirmed. Moreover, the empirical findings convey that *severity of failure* has a significant, negative effect ($p < .05$) on the relationship of *reactive recovery process* and *proactive recovery interaction* with *relationship satisfaction.* The impact of severity of failure on the relationship between *proactive recovery outcome* and *relationship satisfaction* was not significant. Consequently, *hypothesis* H_{12c} is partially confirmed. On the basis of these findings, it gets apparent that the larger the *severity of the failure*, the smaller is the impact of the *recovery dimensions* on *relationship quality*. Therefore, the severity of the failure situation needs to be considered in the definition of recovery measures to be able to effectively handle failure situations. Nonetheless, on the basis of the effect sizes of these interaction effects, it appears that severity of failure does only exert marginal moderating effects on the relationships between the *recovery dimensions* and the *relationship quality dimensions*.

5.4 The financial consequences of recovery management

In the present paragraph, the *financial consequences of recovery management* in business-to-business markets are identified. Based on the recovery dimensions developed in paragraph 4.4, the financial consequences of recovery management have been assessed to answer the *fourth research question*. The investigation is structured into the following paragraphs. The *frame of investigation* introduces the structure of the investigation (paragraph 5.4.1). The *definition of constructs* provides the terminological foundation of the investigation (paragraph 5.4.2). The *development of hypotheses* establishes the theoretical foundation (paragraph 5.4.3), while the *measurement of constructs* explicates the empirical foundation of the investigation (paragraph 5.4.4). At last, the *results of hypothesis testing* derive the fundamental results of the investigation (paragraph 5.4.5).

5.4.1 Frame of investigation

The *frame of the investigation* illustrates the conceptual structure of the investigation on the financial consequences of recovery management in business-to-business markets (cf. figure 5.10). The investigation takes an *internal perspective* on recovery management in business markets to examine the consequences of an effective recovery management from a *seller firm perspective*. On the basis of the *recovery management model,* the internal consequences of an

effective recovery management were assessed on the *recovery performance measures* (i.e. quality of recovery management) and the *financial performance measures* (i.e. profitability).

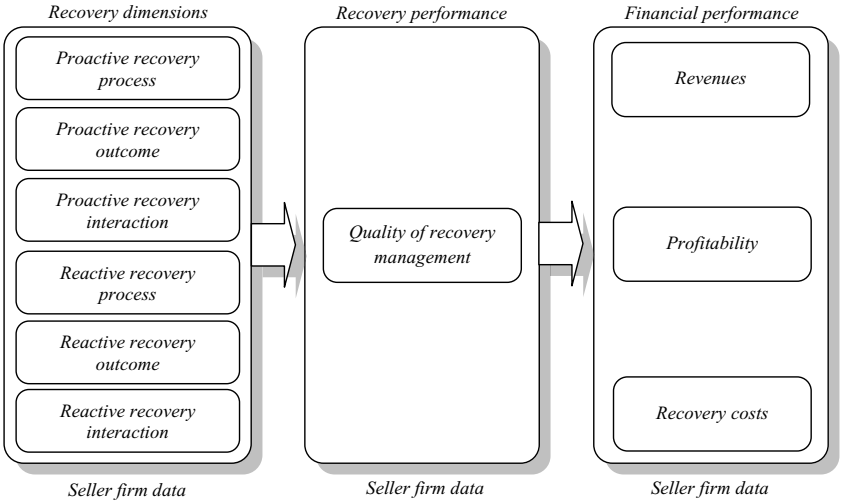


Figure 5.10: Structure of recovery management model

Source: own illustration

5.4.2 Definition of constructs

In this paragraph, the constructs related to the *recovery management model* are defined for the subsequent investigation. Since the constructs related to the *recovery dimensions* have been defined in the previous investigation (cf. paragraph 5.3.2), the present paragraph will focus on the definition of the *performance measures* in the recovery management model. More specifically, the internal consequences of recovery management have been defined as the *recovery performance measures* (paragraph 5.4.2.1) and the *financial performance measures* (paragraph 5.4.2.2).

5.4.2.1 The recovery performance measures

The construct *quality of recovery management* is defined as the *extent to which the seller firm has implemented a consistent set of recovery measures to ensure an effective handling of product or service failure situations towards their customers*. In particular, the quality of recovery management reflects the effectiveness of the recovery management and represents an aggregated performance measure for seller firms to assess the maturity level of their recovery management system. This performance measure reflects the characteristics of the individual recovery measures related to the dimensions *recovery process*, *recovery outcome* and *recov-*

ery interaction as well as the perspectives *proactive* and *reactive recovery*. Therefore, the *recovery management quality* measure constitutes an aggregated performance measure, which may be utilized by seller firms to evaluate and improve the effectiveness of their recovery management activities.

5.4.2.2 The financial performance measures

The *financial performance* of the seller firm reflects the financial consequences of an effective recovery management implemented by the seller firm. Based on the findings derived from the literature review (cf. paragraph 2.2) and the qualitative interviews (cf. paragraph 4.4), the *financial performance measures* of recovery have been defined to comprise the constructs *revenues, recovery costs* and *profitability*. The construct *revenues* is defined as the *annual turnover of a seller firm related to its ordinary business operations across all customers*. These revenues encompass all earnings of the seller firm in a financial year, which result from the regular business activities of the seller firm related to all customers of the firm including all failure situations and respective recovery activities. The construct *recovery costs* is defined as the *annual expenses of a seller firm related to its recovery activities across all customers*. These recovery costs comprise all expenditures of the seller firm in a financial year resulting from the recovery activities due to failures of its products and services. In particular, recovery costs have been differentiated into *process recovery expenditures* and *outcome recovery expenditures* (Zhu, Sivakumar and Parasuraman 2004, p. 500), which may be further separated into *fixed* or *variable costs* (Simons and Kraus 2005, p. 288). The construct *profitability* is defined as the *annual rate of return of a seller firm related to its ordinary business operations across all customers.* In general, *profitability* refers to the ratio of financial returns and the respective expenditures related to the operational activities of a firm (Doyle 2000, p. 3). To capture the profitability of a seller firm resulting from its regular business operations, the financial measure *Earnings Before Interest and Taxes (EBIT*) has been selected since it reflects the operational performance of a firm independent of external influence factors from the capital market (i.e. interest rates) or taxation policies (i.e. taxes) and is available for a large number of firms on an annual basis from its financial statements.

5.4.3 Development of hypotheses

In this paragraph, the hypotheses related to the financial consequences of recovery management in business-to-business markets are defined. The hypotheses regarding the effects of the *recovery dimensions* on the *recovery performance measures* and *financial performance measures* have been developed based on the insights gained from the literature review and the qualitative investigation. The hypotheses $H_{13} - H_{22}$ convey the assumed relationships of the *recovery management model*.

The *thirteenth* hypothesis is related to the impact of the *proactive recovery process* on the *quality of recovery management*. As presented in paragraph 5.3.2.1, *proactive recovery process* consists of the recovery measures *failure prevention*, *failure identification* and *failure notification*. The *prevention of failures* is related to activities of the seller firm to avoid the occurrence of failure situations. The failure prevention reduces the number of failures over time (Johnston 1995, p. 219), which improves the quality of recovery management. The *identification of failures* refers to the efforts of the seller firm to recognize failures before customers have recognized the failure situation (Miller, Craighead and Karwan 2000, p. 390), which decreases the negative effects of the failure (Johnston and Hewa 1997, p. 471) and reflects positively on the recovery management quality. The *notification of failures* refers to actions of the seller firm to inform customers on the failure situation, which enables customers to take alternative actions (Durvasula, Lysonski and Metha 2000, p. 442) and improves the quality of recovery management. Therefore, it is assumed that *proactive recovery process* has a positive impact on *recovery management quality* and the hypothesis is developed:

H_{13}: Proactive recovery process is positively related to quality of recovery management.

The *fourteenth* hypothesis refers to the impact of the *proactive recovery outcome* on the *quality of recovery management*. As discussed in paragraph 5.3.2.1, proactive recovery outcome is based on the *reduction of failures* and *explanation of failures*. The *reduction of failures* is related to the efforts of the seller firm to improve its products, services or processes based on insights derived from prior failure situations (Brown, Cowles and Tuten 1996, p. 36), which leads to more efficient products, services or processes (La and Kadampully 2004, p. 394) and increases the quality of recovery management. The *explanation of failures* refers to activities of the seller firm to explicate the reasons for the failure situation (Boshoff 1999, p. 240), which facilitates an understanding of the failure situation (Grewal, Roggeveen and Tsiros 2008, p. 433) and enhances recovery management quality. Therefore, a positive impact of *proactive recovery outcome* on *recovery management quality* is assumed and the subsequent hypothesis is defined:

H_{14}: Proactive recovery outcome is positively related to quality of recovery management.

The *fifteenth* hypothesis is associated with the impact of the *proactive recovery interaction* on the *quality of recovery management*. As explicated in paragraph 5.3.2.1, proactive recovery interaction consists of the *rapport of employees*, *initiative of employees* and *feedback of employees*. The *rapport of employees* is related to activities of seller firm employees to develop a personal relationship with customers prior to failure situations (DeWitt and Brady 2003, p. 202), which increases the effectiveness of communication in the failure situation and improves the quality of recovery management. The *initiative of employees* refers to the efforts of seller firm employees to commence the interaction with customers on the failure situation

(Smith, Bolton and Wagner 1999, p. 359), which allows faster decision-making on failure resolution and enhances recovery management quality. The *feedback of employees* relates to the actions of seller firm employees to provide information on the failure situation and its resolution (Boshoff 1999, p. 240) that results in well-informed customers (Andreassen 2000, p. 167) and increases the quality of recovery management. Based on this line of argumentation, a positive impact of *proactive recovery interaction* on *recovery management quality* is assumed and the following hypothesis is developed:

H_{15}: Proactive recovery interaction is positively related to quality of recovery management.

The *sixteenth* hypothesis refers to the impact of the *reactive recovery process* on the *quality of recovery management*. As discussed in paragraph 5.3.2.1, reactive recovery process is represented by the *response on failures*, *analysis of failures* and *controlling of failures.* The *response on failures* is related to activities of the seller firm to promptly react on the failure situation (Smith, Bolton and Wagner 1999, p. 359). Based on an immediate failure response, the negative effects of the failure situation may be reduced (Boshoff 1999, p. 237), which improves the quality of recovery management. The *analysis of failures* is associated with the efforts of the seller firm to detect the root cause of the failure, resolve the failure situation and prevent its reoccurrence (Gonzalez, Hoffman and Ingram 2005, p. 58), which enhances the quality of recovery management. The *controlling of failures* refers to the actions of the seller firm to monitor and track the type of failures over time (Gonzalez et al. 2010, p. 226). The systematic tracking of failures facilitates the sustainable resolution and prevents the reoccurrence of the failure (Gonzalez, Hoffman and Ingram 2005, p. 62), which reflects positively on the quality of recovery management. Accordingly, it is supposed that *reactive recovery process* exerts a positive impact on *recovery management quality*, which forms the following hypothesis:

H_{16}: Reactive recovery process is positively related to quality of recovery management.

The *seventeenth* hypothesis relates to the impact of *reactive recovery outcome* on the *quality of recovery management*. As argued in paragraph 5.3.2.1, reactive recovery outcome is based on the *apology for failures*, *resolution of failures* and *compensation of failures*. The *apology for failures* is related to the activities of the seller firm to formally express regret for the occurrence of the failure situation (Boshoff and Leong 1998, p. 40), which enhances the quality of recovery management. The *resolution of failures* refers to the actions of the seller firm to eliminate the failure situation (Lockshin and McDougall 1998, p. 434). Based on the timely resolution of the failure situation, the negative effects of the failure are limited, which increases the quality of recovery management. The *compensation of failures* refers to the efforts of the seller firm to remunerate customers for the damages caused by the failure situation

(Smith, Bolton and Wagner 1999, p. 359). Based on the compensation the loss caused by the failure to the customer is reduced, which improves the quality of recovery management. Therefore, it is supposed that *reactive recovery outcome* is positively associated with *recovery management quality* and the following hypothesis is defined:

H_{17}: Reactive recovery outcome is positively related to quality of recovery management.

The *eighteenth* hypothesis refers to the impact of the *reactive recovery interaction* on the *quality of recovery management*. As presented in paragraph 5.3.2.1, reactive recovery interaction is determined by the *reliability of employees*, *commitment of employees* and *courtesy of employees*. The *reliability of employees* relates to the activities of seller firm to fulfill their promises made during the recovery encounter (Boshoff 1999, p. 240), which increases the effectiveness of the interaction in the failure situation and improves the quality of recovery management. The *commitment of employees* during the recovery refers to the personal efforts of seller firm employees to resolve the failure situation (Johnston 1995, p. 221), which increases the effectiveness of the recovery activities and enhances the recovery management quality. The *courtesy of employees* is associated with the activities of seller firm employees to ensure a friendly and pleasant atmosphere during the recovery encounter (Johnston 1995, p. 225). The considerate treatment of customers increases the effectiveness of recovery (Hocutt, Bowers and Donavan 2006, p. 204) and facilitates the quality of recovery management. Therefore, it is assumed that *reactive recovery interaction* is positively related to *recovery management quality* and the following hypothesis is derived:

H_{18}: Reactive recovery interaction is positively related to quality of recovery management.

Several studies have suggested a positive *return on recovery management* (e.g., Hart, Heskett and Sasser 1990; Hoffman and Kelley 2000; McCollough, Berry and Yadav 2000). In contrast, Hutt and Speh (2004, p. 337) suggested that investments in service quality (i.e. recovery) reflect diminishing returns. In particular, Palmatier et al. (2007, p. 213) argued that despite the known benefits, seller firms still search for tangible benefits of relationship constructs in terms of financial performance. Nevertheless, empirical findings from recent investigations confirm the positive impact of recovery management on the financial performance of the seller firm (Gonzalez et al. 2010, p. 232). Furthermore, Sim, Song and Killough (2010, p. 44) suggested that recovery may be able to predict future financial performance based on *Return On Sales (ROS)* data. Based on findings from the qualitative investigation, two fundamental causal paths between *quality of recovery management* and *profitability* have been identified. First, *quality of recovery management* is suggested to impact *profitabilit*y through higher revenues based on more effective recovery (defined as *revenue increase effect*). Second, the *quality of recovery management* is supposed to affect *profitability* by lower costs of recovery based on more efficient recovery (defined as *cost decrease effect*).

The *nineteenth* hypothesis refers to the impact of the *quality of recovery management* on the *revenues* of the seller firm. As suggested by previous literature, an effective recovery management reflects positively upon customer satisfaction with the seller firm (Priluck and Lala 2009, p. 53). Since satisfied customers were found to repeat (Smith and Bolton 1998, p. 77) or even expand (Ulaga and Eggert 2006, p. 322) their purchases of the seller firms' products or services, revenues are likely to increase for seller firms providing satisfactory recovery management. Nevertheless, empirical findings reflect that the effects of customer satisfaction take time to translate into customer purchase behavior (Anderson, Fornell and Lehmann 1994, p. 63). Furthermore, findings reflect that seller firms may increase their revenues by attaining higher prices from their customers (Storbacka, Strandvik and Grönroos 1994, p. 33). Similarly, Gonzalez et al. (2010, p. 232) suggested that effective recovery leads to a higher level and growth of revenues of the seller firm. Accordingly, it is assumed that seller firms with an effective *recovery management* reflect higher *revenues* than seller firms without an effective recovery management and the hypothesis is developed:

H_{19}: Recovery management quality is positively related to the revenues of the seller firm.

The *twentieth* hypothesis relates to the impact of the *quality of recovery management* on the *recovery costs* of the seller firm. As derived from the literature review and reflected by the qualitative interviews, an effective recovery management reduces the costs related to the handling of product or service failures based on the *prevention of failures* (e.g., Johnston 1995), *identification of failures* (e.g., Johnston and Hewa 1997), *resolution of failures* (e.g., Lockshin and McDougall 1998) and *reduction of future failures* (e.g., La and Kadampully 2004). In particular, Johnston and Michel (2008, p. 80) argued that the reduction of recovery costs may be achieved by increasing process efficiency and reducing process complexity, which leads to a lower number of future failures. Similarly, Fang, Luo and Jiang (2013, p. 12) noted that the earlier the start and the shorter the duration of recovery activities, the lower are the costs required for successful recovery. In contrast, Smith and Karwan (2010, p. 112) argued that the implementation of a recovery management system requires substantial investments in resources, which increases the costs associated with recovery. According to Grewal, Roggeveen and Tsiros (2008, p. 432), the costs associated with recovery may reach substantial levels. In general, it is supposed that seller firms with an effective recovery management reflect lower recovery costs than seller firms without an effective recovery management. Accordingly, the subsequent hypothesis is developed:

H_{20}: Recovery management quality is negatively related to recovery costs of the seller firm.

The *twenty-first* hypothesis refers to the impact of the *revenues* on the *profitability* of the seller firm. According to prior literature, the costs related to the acquisition of new customers significantly exceed the costs required for the retention of existing customers (Anderson and

Sullivan 1993, p. 141). The handling of existing customers reduces handling costs due to improved utilization of resources, lower administrative costs, lower price sensitivity and lack of acquisition costs (Reichheld 1996, p. 57). Accordingly, prior research reflected that increasing revenues and decreasing costs of loyal customers have a positive impact of profitability (Jacobs, Johnston and Kotchetova 2001, p. 356). Empirical findings reflect that larger purchases resulting from higher customer loyalty will translate into higher financial success (Bowman and Narayandas 2004, p. 435). An increase of the pricing level of products or services based on lower price sensitivity without changing the related costs may increase the profitability of the seller firm (Stock 2005, p. 77). Homburg, Wieseke and Hoyer (2009, p. 48) discovered a positive impact of willingness to pay on the financial performance of the seller firm. Therefore, the generation of higher revenues on the basis of higher purchases and higher prices with existing customers should lead to higher profitability of the seller firm and the following hypothesis is defined:

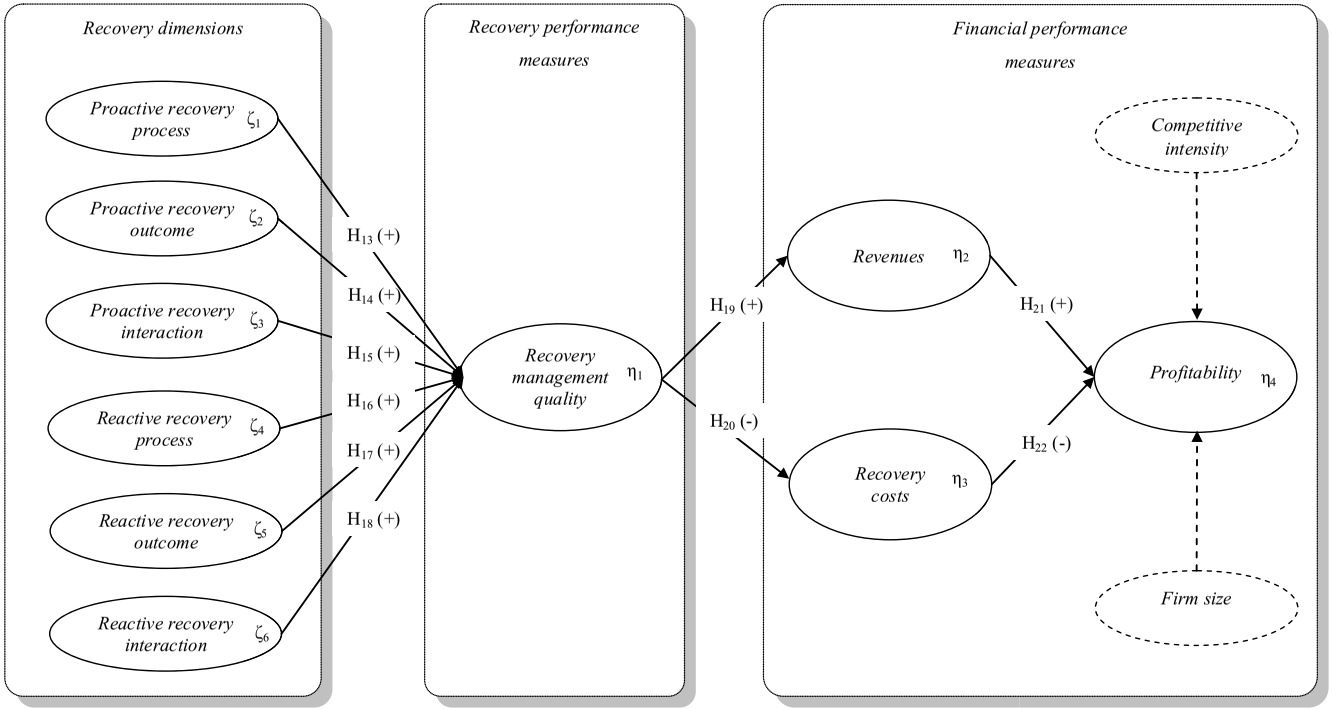
H_{21}: The revenues of the seller firm are positively related to profitability of the seller firm.

The *twenty-second* hypothesis is associated with the impact of the *recovery costs* on the *profitability* of the seller firm. Based on the insights derived from the qualitative interviews, the *ultimate prevention of failures*, *immediate response on failures* and *sustainable resolution of failures* by the seller firm will result in the *reduction of recovery costs*. The reduction of recovery costs is based on lower costs of failure handling within the seller firm (an internal effect) and lower costs related to complaints from the customer firms (an external effect). These lower recovery costs will directly improve the profitability of the seller firm. Prior research reflected that the reduction of recovery costs based on a continuous learning and improvement process leads to an improvement of the profitability of the seller firm (La and Kadampully 2004, p. 398). Therefore, Simons and Kraus (2005, p. 287) argued that the requirements for recovery need to be balanced with the costs of recovery. Similarly, Parasuraman (2006, p. 591) noted that the assessment of costs associated with recovery is important to manage the effectiveness of recovery. Therefore, it is assumed that seller firms with lower recovery costs reflect higher levels of profitability than seller firms with higher recovery costs and the hypothesis is developed as:

H_{22}: The recovery costs of the seller are negatively related to profitability of the seller firm.

To consider the contextual background in the data, two *control variables* were included in the investigation. The construct *competitive intensity* has been considered as a control variable for the construct *profitability*. Under high competitive intensity, seller firms tend to engage in more competitive pricing behavior to secure its market position than under low competitive intensity, which negatively affects their profitability level (Bowman and Narayandas 2004, p.

445). Therefore, competitive intensity has been considered as a control variable in previous studies with financial outcome variables (e.g., Homburg, Wieseke and Hoyer 2009). The construct *firm size* has been also considered as a control variable for the construct *profitability*. In general, customers expect more formalized procedures, more generous compensation policies and more profound recovery resources from larger seller firms compared to smaller seller firms (Wirtz and McColl-Kennedy 2010, p. 657). The hypotheses related to the *recovery management model* are illustrated by figure 5.11.



Notes: The straight lines refer to direct effects, whereas the dotted lines reflect control effects.

Figure 5.11: Hypotheses related to recovery management model

Source: own illustration

5.4.4 Measurement of constructs

Since measurement scales related to the recovery dimensions and the performance measures used in this investigation were not available in contemporary literature, new measurement scales have been developed. The development of the measurement items was based on the existing recovery literature (cf. paragraph 2.2) and the qualitative interviews (cf. paragraph 4.4). To capture the theoretical scope of the constructs, multiple-item scales were used throughout the investigation. In particular, respondents were asked to reflect their level of agreement or disagreement with each statement given in the questionnaire based on seven-point Likert-type scales ranging from *"strongly disagree"* (1) to *"strongly agree"* (7).

The *dimensions of recovery management* were measured based on a *formative specification* of the constructs. As each recovery measure represents a specific characteristic of the recovery dimension, the criteria suggested by Jarvis, MacKenzie and Podsakoff (2003, p. 203) confirmed a formative specification of these constructs. Prior research has argued that whenever a measurement model is required, which reflects the influence factors of a latent variable and the relative importance of the dimensions of a construct, a formative measurement model is more useful (Fassott and Eggert 2005, p. 47). Since the aim of the present investigation is the identification of the contributions of each recovery dimension to the overall quality of recovery management, the conceptual dimensions of recovery management were specified and measured as *formative constructs*.

The construct *proactive recovery process (PRP)* was measured by three formative indicators based on the average mean values of the constructs *prevention of failures (PREV)*, *identification of failures (IDENT)* and *notification of failures (NOTIF)*. The construct *proactive recovery outcome (PRO)* was calculated by two formative indicators based on the average mean values of the constructs *reduction of failures (IMPRO)* and *explanation of failures (EXPLA)*. The construct *proactive recovery interaction (PRI)* was assessed by three formative indicators based on the average mean values of the constructs *rapport of employees (RAPP)*, *initiative of employees (INITIA)* and *feedback of employees (FEEDB)*. The construct *reactive recovery process (RRP)* was measured by three formative indicators based on the average mean values of the constructs *response on failures (RESP)*, *analysis of failures (ANALY)* and *controlling of failures (CONTR)*. The construct *reactive recovery outcome (RRO)* was evaluated by three formative indicators based on the average mean values of the variables *apology for failures (APOL)*, *resolution of failures (RESOL)* and *compensation of failures (COMP)*. The construct *reactive recovery interaction (RRI)* was operationalized by three formative indicators based on the average mean values of the variables *reliability of employees (RELIA)*, *commitment of employees (COMM)* and *courtesy of employees (COURT)*.

The construct *quality of recovery management (QRM)* was measured by three reflective indicators based on the average mean values of the constructs *quality of recovery process (QRP)*, *quality of recovery outcome (QRO)* and *quality of recovery interaction (QRI)*. Since each of these constructs was measured by three reflective indicators, the measurement of the *QRM* construct would have been based on nine reflective indicators. To reduce the complexity of the measurement model, the average mean values of each set of three reflective indicators was calculated as one indicator for the reflective measurement of the *QRM* construct. This procedure, known as *item parceling,* represents a common approach to reduce measurement model complexity by the aggregation of indicators (Little et al. 2002, pp. 167-168). Since this approach improves the goodness of fit of the empirical data to the model based on reduced model complexity, item parceling has been considered as a reliable modeling approach for complex constructs (Klarmann 2008, p. 263). To ensure the independence of the measurement for the endogenous and exogenous variables in the recovery management model, the measurement items related to the *recovery dimension constructs* and the *recovery management quality construct* were collected by separate measurement items.

The construct *revenues (REV)* was measured by a single measurement item. Although respondent judgments on financial figures may be considered as reliable since these represent objective, available information, empirical data on the revenues of the seller firms was derived from two independent commercial databases and, thus, represent "objective" data. The *turnover* of the seller firm from the previous financial year *in million Euros* was used as an *absolute* measure in this investigation. The construct *recovery costs (RECCOST)* was also measured by a single measurement item. In particular, the respondents were asked on the *expenses* for the handling of product or service failures of their organization in the last financial year in relation to the turnover of the firm. Thus, the construct constituted a *relative* measure, which is based on a seven-point Likert-type scale ranging from *"very low"* (1) to *"very high"* (7). The construct *profitability (PROFIT)* was measured by a single indicator derived from two commercial databases based on the *Average Earnings Before Interest and Taxes (AVEBIT)* measure. The *Earnings Before Interest and Taxes (EBIT)* measure was selected since it represents a reliable indicator of a firms' operational earnings independent from financial and taxation effects. Due to the economic crisis during the period of data collection (2008 – 2009) and the heterogeneous influence factors across industries, a longitudinal measurement approach for profitability was selected. To combine the advantages of the *EBIT* measure with the longitudinal perspective, the average mean value of the *EBIT* measure across a four-year period (2006 – 2009) was considered in the investigation. The context variable *competitive intensity (COMINT)* of the industry was measured by two reflective indicators based on a seven-point Likert-type scale ranging from *"strongly disagree"* (1) to *"strongly agree"* (7). The context variable *firm size (FIRMSIZE)* was measured by a single indicator based on the *number of employees* as indicated by the respondents of seller firms.

The *validity* of the measurement model was assessed to be able to derive substantial findings from the investigation. Since the measurement of the *recovery dimensions* was based on *formative constructs*, the specific requirements for the evaluation of formative measures had to be considered (Diamantopoulos 2006, p. 11). The evaluation criteria established for reflective measurement models (e.g., indicator reliability, factor reliability, average variance extracted) cannot be utilized for formative indicators since these criteria are focused on the *internal consistency* of the indicators, which is not required for formative indicators (Homburg, Klarmann and Pflesser 2008, p. 296). As recommend by prior literature (Henseler, Ringle and Sinkovics 2009, pp. 300-301), a *two-step approach* has been followed to verify the validity of formative measurement models based on the quality criteria *nomological validity* and *multicollinearity*. In the first step, the *nomological validity* of the measurement was analyzed based on the procedures suggested by previous research (e.g., Diamantopoulos and Winklhofer 2001; Krafft, Götz and Liehr-Gobbers 2005; Rossiter 2002). The nomological validity of the formative constructs was assessed based on its relationships with other latent variables in the same nomological network. As recommended by Diamantopoulos and Winklhofer (2001, p. 273), the formative *recovery dimension* constructs have been related to the reflective *recovery management quality* construct, which is theoretically related to the formative constructs. Since the *recovery management quality* construct is intended to capture the recovery dimensions, it is supposed to be significantly related to all of the recovery dimensions. The *explained variance* has been considered as a measure for the validity of formative constructs, which reflects whether the construct is sufficiently captured by its formative indicators (Diamantopoulos and Winklhofer 2001, p. 273). Although a minimum level for explained variance has not been established in literature, a share of 26 percent of unexplained variance or larger reflects the incompleteness of the indicators (Diamantopoulos 2006, p. 13). Since the construct *recovery management quality* reflects that a substantial degree of variance (R^2 = .748) is explained by the exogenous constructs, a sufficient degree of nomological validity of the measurement model is assumed.

In the second step, the *multicollinearity* of the indicators has been evaluated based on the processes established in quantitative literature (Gujarati 2003, p. 362). The *multicollinearity* of the exogenous variables represents a fundamental criterion for the validity of formative measurement models. To assess the degree of multicollinearity, the *variance inflation factor (VIF)* and *tolerance value (TV)* were calculated for each formative construct (cf. table 5.13). The largest VIF value was 3.071, which is significantly below the recommended threshold of 10 for critical multicollinearity (Gujarati 2003, p. 362). The smallest TV value was .326, which was considerably above the suggested threshold of .10 for serious multicollinearity (Hair et al. 2006, p. 230). Based on these criteria, the absence of serious multicollinearity problems is assumed.

Formative variables	Mean (M)	Standard deviation (SD)	Variance inflation factor (VIF)	Tolerance value (TV)
Recommended thresholds	--	--	*< 10*	*> .10*
Prevention (PREV)	4.92	1.093	2.384	.420
Identification (IDENT)	5.58	1.280	2.763	.362
Notification (NOTIF)	4.86	1.519	1.723	.580
Response (RESP)	5.80	.937	2.843	.352
Analysis (ANALY)	5.74	1.027	3.071	.326
Controlling (CONTR)	5.59	1.391	2.171	.461
Improvement (IMPRO)	5.62	.972	2.313	.432
Explanation (EXPLA)	4.93	1.290	2.223	.450
Resolution (RESOL)	5.11	1.108	2.296	.435
Compensation (COMP)	4.38	1.565	1.590	.629
Apology (APOL)	4.55	1.508	1.694	.590
Initiative (INITIA)	5.19	1.175	1.908	.524
Rapport (RAPP)	5.88	.928	2.400	.417
Feedback (FEEDB)	4.61	1.330	2.150	.465
Commitment (COMM)	5.74	.910	2.775	.360
Reliability (RELIA)	5.63	1.000	2.533	.395
Courtesy (COURT)	6.18	.744	1.945	.514

Table 5.13: Measurement properties related to recovery dimensions
Source: own illustration

Since the measurement of the *quality of recovery management* construct was based on reflective measurement items, the reliability and validity measures established in contemporary literature were used (cf. paragraph 5.2.2.2). The measurement properties of the construct *quality of recovery management* reflect a suitable measurement of the construct (cf. table 5.14).

Construct	Measurement item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Quality of recovery management (QRM)	QRM1	.895	60.850	.948	.967	.907
	QRM2	.897	63.723			
	QRM3	.927	79.824			

Table 5.14: Measurement properties related to quality of recovery management
Source: own illustration

The context variable *competitive intensity* was measured by two reflective indicators. The measurement scale developed by Gebauer (2007, p. 79) was adapted for the investigation. The measurement properties of the variable convey an adequate measurement of the construct (cf. table 5.15).

Construct	Measurement item	Indicator reliability	T-value of factor loading	Cronbachs alpha	Composite reliability	Average variance extracted
Recommended thresholds		*≥ .40*	*≥ 1.645*	*≥ .70*	*≥ .60*	*≥ .50*
Competitive intensity (COMINT)	COMINT1	.834	60.850	.837	.924	.859
	COMINT2	.883	63.723			

Table 5.15: Measurement properties related to competitive intensity
Source: own illustration

5.4.5 Results of hypothesis testing

The hypotheses related to the recovery management model have been empirically tested with partial least squares based on the software *SmartPLS 2.0* (Ringle, Wende and Will 2005). In the *structural model*, the *recovery dimensions* were treated as exogenous variables ($\zeta_1 - \zeta_6$), whereas the *recovery performance measures* and *financial performance measures* were considered as endogenous variables ($\eta_1 - \eta_4$). The results of the testing of the hypotheses related to the structural relationships between the exogenous and the endogenous variables in the model are further discussed subsequently.

The evaluation of structural models based on variance-based estimation procedures reflects specific characteristics since *global quality criteria* are not available (Ringle and Spreen 2007, p. 216). Due to the iterative estimation process with partial regressions, only *local quality*

criteria may be calculated for partial models (Huber et al. 2007, p. 12). The following evaluation criteria have been considered for the evaluation of the structural relationships in the recovery management model. The *sign* and *significance* of the regression coefficients reflect the quality of the structural model. The *path coefficient (pc)* conveys the strength and direction of the relationship between the exogenous and the endogenous variables in the structural model. The significance of the structural relationships is assessed by the *t-statistics* derived from the *bootstrapping procedure* with 1000 samples and 191 cases. Based on a *one-sided test* and a *confidence interval of 10 percent* with 188 degrees of freedom, the critical t-value (t_c) is 1.282. An empirical t-value (t_{emp}) of the regression coefficients equal or above the critical t-value can be considered as significant. The results of the hypothesis testing related to the structural relationships between the *recovery dimensions* and the *quality of recovery management* are illustrated by table 5.16, while the results of the hypothesis testing associated with the structural relationships between the *quality of recovery management* and the *financial performance measures* are depicted by table 5.17. The *coefficient of determination (R^2)* represents an important quality measure for the structural model (Krafft, Götz and Liehr-Gobbers 2005, p. 83). The R^2 measure reflects the level of variance of an endogenous latent variable explained by the exogenous latent variables (Chin 1998, p. 323). Based on the empirical results, the recovery dimensions derived from the qualitative investigation strongly influence the quality of the recovery management of the seller firm (cf. table 5.18). The substantial level of explained variance of the construct *quality of recovery management* (R^2 = .748) contributed by the *recovery dimensions* confirms the validity and integrity of the *recovery management framework*. The low level of explained variance of the construct *profitability* (R^2 = .093) emphasizes the marginal, but positive impact of recovery management on the financial performance of seller firms in business-to-business markets. The *Stone-Geisser criterion (Q^2)* reflects the predictive validity of the structural model (Fornell and Cha 1994, p. 72). The Q^2 measure was derived for the *redundancies* based on the *blindfolding procedure*. Since the redundancies of the endogenous variables reflect values above 0, the residuals of the model estimation are lower than the residuals of a simple estimation (Ringle and Spreen 2007, p. 215) and *predictive validity* is assumed.

Endogenous variable	Quality of recovery management	
Exogenous variables	pc	t-value
Proactive recovery process	.130	1.702
Proactive recovery outcome	.121	1.310
Proactive recovery interaction	.105	1.488
Reactive recovery process	.327	3.399
Reactive recovery outcome	.116	1.579
Reactive recovery interaction	.244	3.003

Table 5.16: Strength and significance of path coefficients on recovery performance
Source: own illustration

Endogenous variables	Revenues		Recovery costs		Profitability	
Exogenous variables	pc	t-value	pc	t-value	pc	t-value
Quality of recovery management	.111	1.420	-.206	2.026	--	--
Revenues	--	--	--	--	.231	1.451
Recovery costs	--	--	--	--	-.051	1.022
Competitive intensity	--	--	--	--	-.180	1.958
Firm size	--	--	--	--	.021	.118

Table 5.17: Strength and significance of path coefficients on financial performance
Source: own illustration

	Coefficient of determination	Stone-Geisser criterion
Endogenous variables	(R^2)	(Q^2)
Quality of recovery management	.748	.113
Revenues	.012	.012
Recovery costs	.043	.043
Profitability	.093	.030

Table 5.18: Results of coefficient of determination and Stone-Geisser criterion
Source: own illustration

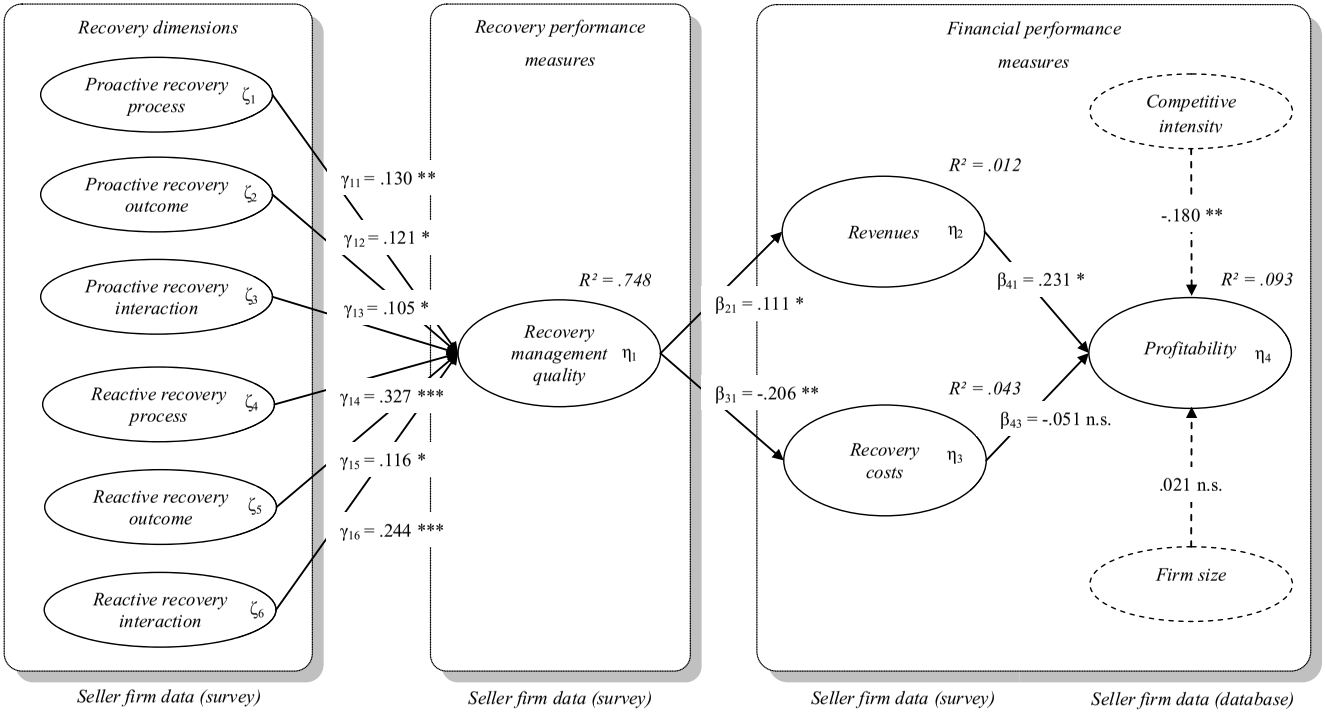
The *thirteenth hypothesis* was confirmed on the basis of the empirical results since *proactive recovery process* has a significant, positive impact on the *quality of recovery management* (γ_{11} = .130, $p < .05$). Therefore, it is concluded that failure prevention, failure identification and failure notification increase the overall quality of the recovery management of the seller firm.

The *fourteenth hypothesis* was affirmed by the results as *proactive recovery outcome* has a significant, positive impact on the *quality of recovery management* (γ_{12} = .121, p < .10). Consequently, it is reflected that failure reduction and failure explanation improve the quality of recovery management. The *fifteenth hypothesis* was confirmed on the basis of the empirical findings since *proactive recovery interaction* has a significant, positive impact on the *quality of recovery management* (γ_{13} = .105, p < .10). Hence, it is stated that employee rapport, employee initiative and employee feedback enhance the recovery management quality of the seller firm. The *sixteenth hypothesis* was verified based on the empirical results as *reactive recovery process* has a significant, positive impact on the *quality of recovery management* (γ_{14} = .327, p < .01). Thus, it is affirmed that failure response, failure analysis and failure controlling drive the quality of recovery management of the seller firm. The *seventeenth hypothesis* was confirmed due to the empirical findings since *reactive recovery outcome* has a significant, positive impact on the *quality of recovery management* (γ_{15} = .116, p < .10). Therefore, it is noted that failure apology, failure resolution and failure compensation support the recovery management quality of the seller firm. The *eighteenth hypothesis* was approved based on the empirical outcome that *reactive recovery interaction* has a significant, positive impact on the *quality of recovery management* (γ_{16} = .244, p < .01). Accordingly, it is stated that employee commitment, employee reliability and employee courtesy improve the seller firms' recovery management quality. The *nineteenth hypothesis* was empirically confirmed since *quality of recovery management* has a significant, positive impact on *revenues* (β_{21} = .111, p < .10). On this basis it is stated that the quality of recovery management increases the revenues of the seller firm. The *twentieth hypothesis* was affirmed based on the empirical findings that *quality of recovery management* has a significant, negative impact on *recovery costs* (β_{31} = -.206, p < .05). Therefore, it is concluded that the quality of recovery management decreases the costs of the seller firm associated with recovery. The *twenty-first hypothesis* was endorsed on the basis of the empirical results since *revenues* has a significant, positive impact on *profitability* (β_{42} = .231, p < .10). Hence, it is considered that the revenues of the seller firm exert a positive impact of its profitability. However, the *twenty-second hypothesis* was not confirmed by the empirical findings as *recovery costs* had a negative, but insignificant impact on *profitability* (β_{43} = -.051, n.s.). Consequently, it is noted that the recovery costs of the seller firm do not (significantly) influence its profitability. With one exception, all hypothesized relationships were confirmed by the empirical data (cf. table 5.19).

Hypotheses	*Results*
H_{13}: Proactive recovery process is positively related to quality of recovery management.	supported ($p < .05$)
H_{14}: Proactive recovery outcome is positively related to quality of recovery management.	supported ($p < .10$)
H_{15}: Proactive recovery interaction is positively related to quality of recovery management	supported ($p <. 10$)
H_{16}: Reactive recovery process is positively related to quality of recovery management.	supported ($p < .01$)
H_{17}: Reactive recovery outcome is positively related to quality of recovery management.	supported ($p < .10$)
H_{18}: Reactive recovery interaction is positively related to quality of recovery management.	supported ($p < .01$)
H_{19}: Recovery management quality is positively related to revenues of the seller firm.	supported ($p < .10$)
H_{20}: Recovery management quality is negatively related to recovery costs of the seller firm	supported ($p < .05$)
H_{21}: The revenues of the seller firm are positively related to profitability of the seller firm.	supported ($p < .10$)
H_{22}: The recovery costs of the seller are negatively related to profitability of the seller firm.	not supported (n.s.)

Table 5.19: Results of hypothesis testing related to recovery management model
Source: own illustration

The empirical results of the hypothesis testing reflect that the *recovery dimensions* exert a significant impact on the *quality of recovery management* of the seller firm. Based on the empirical findings, the quality of the recovery management of the seller firm emits a positive impact on the *revenues* of the seller firm and a negative impact of the *recovery costs* of the seller firm. While a positive impact of the revenues on profitability was identified, the negative impact of the recovery costs on profitability was found to be non-significant (cf. figure 5.12). Nonetheless, on the basis of the empirical results it is confirmed that recovery management exerts an indirect, positive impact on the financial performance of the seller firm in the context of business-to-business markets.



*Notes: completely standardized coefficients are shown; significance levels: * p < .10 ** p < .05 *** p < .01*

Figure 5.12: Results of hypothesis testing related to recovery management model

Source: own illustration

6 Conclusions

Based on the findings derived from the qualitative investigation in chapter four and the quantitative investigation in chapter five, the present and final chapter presents and discusses the fundamental conclusions on recovery management in business markets (cf. figure 6.1).

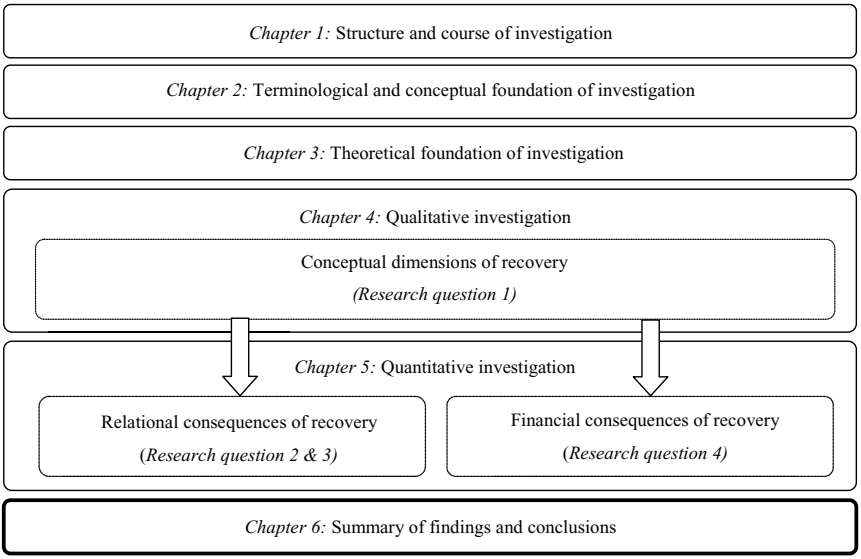


Figure 6.1: Positioning of the sixth chapter into the course of investigation
Source: own illustration

The empirical investigations of this thesis have derived several fundamental contributions to recovery theory and practice. First, the thesis constitutes the initial approach to conceptualize a holistic recovery management framework specifically for the business-to-business market context. Second, the thesis represents one of the few studies, which investigate the relationship between recovery measures implemented by seller firms and the business relationship between seller and customer firms in business-to-business markets. Third, the thesis constitutes one of the first studies in the recovery research discipline, which provides empirical evidence on the relationship between recovery measures executed by seller firms and the financial performance of seller firms. The conclusions deduced from the investigation are discussed in detail in the present chapter, which is structured into the *summary and discussion of findings* (paragraph 6.1), the *theoretical implications* (paragraph 6.2), the *practical implications* (paragraph 6.3) and the *limitations and avenues for future research* (paragraph 6.4).

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7_6, © Springer Fachmedien Wiesbaden 2014

6.1 Summary and discussion of findings

The qualitative and quantitative investigations conducted in the course of the present thesis were intended to develop an understanding of the *conceptual dimensions*, *relational consequences* and *financial contributions* of *recovery management in business-to-business markets*. To answer the four research questions defined in paragraph 1.2, the fundamental contributions of the empirical findings related to the research questions are summarized and discussed in this paragraph.

The *first research question* has been related to the identification and conceptualization of the fundamental recovery dimensions in business-to-business markets and was defined as:

1. What are the fundamental dimensions of recovery in a business-to-business context?

In response to the *first research question*, the fundamental dimensions of recovery management in business-to-business markets have been identified and conceptualized in a comprehensive *recovery management framework for business-to-business markets*. Since the recovery management framework was derived from the qualitative interviews conducted in the context of business markets, it was specifically developed to reflect the requirements of this market context. Although the recovery framework is consistent with several recovery measures from previous research in the business-to-consumer context, its characteristics were mostly specific to the business-to-business context.

The *recovery management framework* developed in this thesis is based on three fundamental *dimensions* (i.e. process, outcome, interaction) and two specific *perspectives* (i.e. proactive vs. reactive) of recovery management in business markets (cf. figure 6.2). The *recovery dimensions* are related to the fields of application of recovery measures defined by the seller firm (i.e. process-related rules, outcome-related rules, interaction-related rules) to determine the implementation of recovery measures from an operational perspective. The *recovery perspectives* refer to the philosophy for the application of recovery measures pursued by the seller firm (i.e. proactive vs. reactive approach) to establish the execution of recovery measures from a strategic perspective. On the basis of the recovery dimensions, seller firms are facilitated to define, implement and improve their recovery measures to effectively handle failure situations towards their customers in business-to-business markets. Based on the recovery perspectives, seller firms are enabled to define their strategic approach to handle failure situations in business markets, which holds critical implications for the organizational culture of the seller firm. In contrast to prior conceptualizations of recovery management, the recovery framework specifically related to business markets developed in this thesis significantly differs from previous conceptualizations in consumer markets.

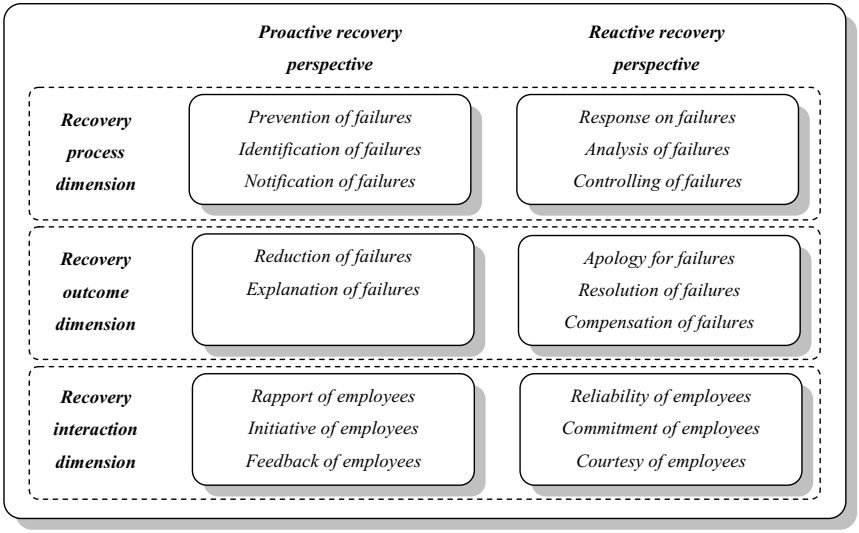


Figure 6.2: An integrated recovery management framework
Source: own illustration

The *recovery process dimension* comprises the following recovery measures, which are related to the interorganizational processes to handle failure situations between seller and customer firms and are defined in the *procedural guidelines* of seller firms in business markets:

- The *prevention of failures* has been discussed in consumer markets as a general attempt of seller firms to reduce the probability of failures (e.g., Johnston 1995). On the basis of the qualitative interviews, the prevention of failures in business markets was identified to include activities of seller firms to query, consult or train their customers on the use of their products or services to prevent the mishandling or misuse of the product or service by their customers.
- The *identification of failures* in consumer markets has been related to the anticipation of the need for recovery by observing critical processes (e.g., Johnston and Hewa 1997). As derived from the qualitative interviews, the identification of failures in business markets was based on drawing samples from production or delivery processes and conducting internal audits or benchmarks from the field to identify failures of products or services by the seller firm.
- The *notification of failures* was associated with the timely information to customers on the occurrence of failures in consumer markets (e.g., Miller, Craighead and Karwan 2000). The notification of failures in business markets was related to detailed information on the failure situation, the number of affected products or services and the ac-

tions taken to limit the damage to allow customers to take alternative actions (e.g., Lockshin and McDougall 1998).

- The *response on failures* was related to the fast reaction of the seller firm to the failure situation to prevent the dissatisfaction of customers in consumer markets (e.g., Boshoff 1999). In business markets, the qualitative interviews conveyed that a fast response to failures is specifically important to mitigate the damage and the costs resulting from the failure situation.
- The *analysis of failures* was linked to the identification of the cause of failures to resolve the failure situation at the seller firm in consumer markets (e.g., Gonzalez, Hoffman and Ingram 2005). As derived from the qualitative interviews, the analysis of failures in business markets is related to the mutual examination of the root cause by the seller firm and the customer firm to understand the cause and allow for the resolution and prevention of the failure.
- The *controlling of failures* in consumer markets has been related to the tracking of failures with respect to the type of failures (e.g., Hart, Heskett and Sasser 1990) and the costs of failures (e.g., Tax and Brown 1998). The findings from the qualitative interviews suggested that the controlling of failures in business markets is related to the regular reporting of failure costs, failure status, failure causes, failure duration, failure responsibility and failure corrections based on corporate information systems at the seller and the customer firms.

The *recovery outcome dimension* entails the following recovery measures, which refer to the interorganizational result of the handling of failures situations between seller and customer firms and are described in the *distributive guidelines* of seller firms in business markets:

- The *reduction of failures* has been considered in consumer markets by the improvement of services delivery systems based on previous failures (e.g., La and Kadampully 2004). As derived from the qualitative interviews, the reduction of failures in business markets referred to the improvement of products, services and processes based on insights from existing failures.
- The *explanation of failures* has been related to the elucidation of the reason of the failure situation in consumer markets (e.g., Boshoff 2005). Based on the qualitative interviews, the explanation of failures in business markets involves the provision of detailed, written evidence on the root cause and the effectiveness of the measures taken to resolve the failure situation.
- The *apology for failures* has been related to acknowledging the failure and showing regret for the inconvenience caused by the failure in consumer markets (e.g., Boshoff and Leong 1998). As derived from the qualitative interviews, the apology for failures in business markets is related to the confirmation of the failure situation only when the

seller firm is at fault (due to its financial implications), while showing regret is rather uncommon in business markets.

- The *resolution of failures* was linked to the correction of the failure in consumer markets (e.g., Johnston and Fern 1999). In business markets, the resolution of failures has been associated with the revocation of the failure situation, which includes the sustainable elimination and the correction of the consequences of the failure (e.g., Lockshin and McDougall 1998).
- The *compensation of failures* has been connected to the restitution of consumers for the perceived loss caused by the failure (e.g., Smith, Bolton and Wagner 1999). As retrieved from the interviews, the compensation of failures in business markets was related to the contractually agreed (partial) reimbursement of the objective costs caused by the failure situation.

The *recovery interaction dimension* involves the following recovery measures, which relate to the interorganizational communication between seller and customer firms during the handling of failure situations and are contained in the *interactional guidelines* of seller firms in business markets:

- The *rapport of employees* has been considered as the development of a pleasant interaction and a personal bond between customer and seller in consumer markets (e.g., DeWitt and Brady 2003). The qualitative interviews reflected that rapport in business markets is related to the development of a professional relationship between seller and customer firm employees.
- The *initiative of employees* in consumer markets has been related to the initiation of the recovery activities by the seller firm (e.g., Smith and Bolton 2002). As derived from the qualitative interviews, the initiative of employees in business markets refers to the initiation of the recovery encounter, which includes the involvement of experts, knowhow and equipment.
- The *feedback of employees* has been associated with the provision of regular information to consumers on the failure situation and the measures taken resolve it (e.g., Andreassen 2000). Based on the qualitative interviews, the feedback of employees in business markets referred to the preparation of formal reports reflecting the status of the failure resolution to customer firms, which are frequently reviewed by the management of seller and customer firms.
- The *reliability of employees* has been related to the adherence to promises made by the seller firm during failure situations in consumer markets (e.g., Boshoff 1999). As derived from the qualitative interviews, the reliability of employees in business markets is connected with the compliance with (contractually) agreed procedures and time periods for failure handling.

- The *commitment of employees* in consumer markets has been linked to the personal dedication of employees to the resolution of the failure situation (e.g., Johnston 1995). In business markets, the qualitative interviews conveyed that the commitment of employees is related to the professional and knowledgeable handling of failure situations by skilled employees.
- The *courtesy of employees* has been related to the empathy of employees in treating consumers with empathy and compassion during the failure situation (e.g., Hocutt and Stone 1998). The qualitative interviews reflected that courtesy of seller firm employees in business markets refers to the antiseptic, friendly treatment of customers during the failure situation.

On the basis of this comparison of recovery measures, it gets apparent that the characteristics of recovery management in business-to-business markets significantly differ from business-to-consumer markets based on three fundamental conditions:

- *Criticality*: Since the products or services of seller firms are incorporated in the products, services or processes of customer firms, occurring failures of these products or services exert a substantial impact on customer firms. Based on the large volume of transactions and the criticality of products or services supplied by seller firms in business markets, even small failures may result in significant damages for customer firms. Due to a product or service failure by the seller firm, the quality of the products or services of customer firms may be affected, which requires immediate response, as stated by one respondent from the customer firms:

  You need to imagine, when you produce four thousand products a day (...) and you wait ten days, then you have forty thousand products with the same failure still outside. (...) Thus, speed, through the speed of the failure resolution process, you can save very, very much money.

- *Rationality*: As the products or services in business markets are frequently supplied on the basis of long-term supply contracts, the way of handling failures is generally defined in contractual agreements between seller and customer firms. On the basis of these contracts, customer firms develop explicit expectations regarding the handling of failures by the seller firm. Due to the specification of minimum requirements for failure handling, failure situations in business markets are handled at a rational, composed level as noted by one seller firm respondent:

  The customer knows what he can expect. We know what we have to deliver. Both sides know who is entitled to claim for what for how long. (...) How to proceed in the case that the assured properties have not been met (...). It is on the one hand the clear arrangement and then also the professional execution.

- *Mutuality*: Due to the complexity of products or services and the specific knowledge required for the analysis of failures in business markets, customer firms are often dependent on the seller firm with respect to the handling of failure situations. For the handling of failures, seller firms get deeply involved into the processes and products of customer firms. The handling of failures in business markets is largely based on the mutual identification, analysis and resolution of failures by seller and customer firms as reflected by one customer firm respondent:

  In this case, it has to be clarified, how the problem can be mutually resolved. This means, normally the supplier finds out that it is not caused by the individual component, but it needs to be found somewhere in the interaction with the product (..) and it needs to be attempted to find a mutual solution for it.

On the basis of these conditions, it gets evident that the characteristics of recovery management in business-to-business markets inherently differ from those in business-to-consumer markets. These market conditions warrant a distinct conceptualization for recovery management, which enables seller firms to adapt their recovery measures to the particular conditions of business-to-business markets. The *recovery management framework* developed in this thesis constitutes an integrated set of recovery measures that may serve as a conceptual foundation for seller firms to develop, implement and improve their recovery activities towards their customers in business-to-business markets.

The *second research question* has been related to the relational consequences of recovery management in the context of business-to-business markets and was defined as:

2. What is the impact of recovery dimensions on relationships in a business-to-business context?

With respect to the *second research question*, the impact of the recovery dimensions on the relationship between seller and customer firms has been investigated in the *recovery relationship model* (cf. paragraph 5.3). On the basis of the *total effects* derived from the quantitative investigation, the specific impact of the *recovery dimensions* on the *relationship quality dimensions* and the *relationship loyalty dimensions* has been investigated (cf. table 6.1).

a.) Impact of recovery dimensions on relationship quality dimensions

The *recovery process dimension* exerts a positive impact on the quality of relationships in business-to-business markets. The empirical findings reflect that *proactive recovery process* exerts a positive impact on *relationship commitment* and *relationship satisfaction*. More specifically, the *prevention of failures, identification of failures* and *notification of failures* by the seller firm was found to result in higher relationship commitment and larger relationship satisfaction after failure situations. These findings are encouraged by the equity theory since the

proactive process measures of the seller firm are perceived by customers as increased inputs to the exchange relationship (Adams 1965, p. 283). Since these recovery measures exceed the contractual obligations of the seller firm, customers are motivated to increase their inputs to the relationship to re-establish a state of equity in the exchange relationship (Walster, Berscheid and Walster 1973, p. 154), which increases satisfaction with the relationship (Oliver and Swan 1989, p. 33). As derived from the qualitative interviews, the proactive handling of information on failure situations is appreciated by customers and reflects positively on the business relationship. In contrast, the empirical results convey that *reactive recovery process* exercises a positive, but insignificant impact on the *relationship quality dimensions*. In particular, the findings convey that the *response on failures*, *analysis of failures* and *controlling of failures* do not attain significant effects on *relationship trust*, *relationship commitment* and *relationship satisfaction.* These findings are supported by the equity theory as the reactive process measures of the seller firm are not perceived by customers as additional inputs to the exchange relationship (Adams 1965, p. 283). Since these recovery measures reflect the contractual obligations of the seller firm, customers are not motivated to increase their inputs to the exchange relationship (Walster, Berscheid and Walster 1973, p. 154). As identified from the qualitative interviews, customers hold expectations that seller firms comply with the failure handling procedures defined in contractual agreements. The compliance with failure handling procedures does not yield significant effects on the relationship between seller and customer firms. Therefore, the empirical results reflect that *proactive recovery process* has a positive impact on *relationship quality*, whereas *reactive recovery process* has no impact on *relationship quality* in business markets.

The *recovery outcome dimension* reflects a negative impact on the quality of relationships in the context of business-to-business markets. The empirical findings illustrate that *proactive recovery outcome* has a negative impact on *relationship satisfaction*. In particular, it was identified that the *reduction of failures* and *explanation of failures* leads to lower relationship satisfaction of customers subsequent to failure situations. These findings may be explained by equity theory since the proactive outcome measures of the seller firm are not perceived by customers as increased outcomes from the exchange relationship (Leventhal 1976b, p. 225). Since the outcomes of these recovery measures (i.e. lower future failures) are not apparent, customers perceive that their outcomes have decreased, which maintains the inequitable state of the relationship and reduces satisfaction with the relationship (Oliver and Swan 1989, p. 33). As reflected by the qualitative interviews, the improvement of products, services and processes based on insights derived from failures takes time and may not be immediately perceived by customers. The insights gained from the explanation of failures by the seller firm require significant efforts to translate into the prevention of future failures at the customer firm. Furthermore, the empirical findings reflect that *reactive recovery outcome* exerts a negative impact on the *relationship quality dimensions.* In particular, it has been identified that the

apology for failures, resolution of failures and *compensation of failures* has a negative impact on *relationship trust, relationship commitment* and *relationship satisfaction* after failure situations. These results are reinforced by equity theory since the reactive outcome measures are considered by customers as decreased outcomes from the exchange relationship (Leventhal 1976b, p. 225). Since the outcomes of these recovery measures (i.e. compensation) are not able to recompense the loss incurred by the failure situation, customers perceive that their outcomes have decreased and the inequitable state of the exchange relationship is sustained, which motivates customers to reduce their inputs to the exchange relationship (Leventhal 1976b, p. 225) and decreases satisfaction with the relationship (Oliver and Swan 1989, p. 33). As indicated during the qualitative interviews, the apology for failures is rather ineffective since failures in business markets are handled at a rational level. The resolution and compensation of failures is usually defined by contracts and the activities to resolve and compensate for the failure situation are often perceived as the responsibility of the seller firm. Due to the significant effects of failures in business markets, the resolution and compensation of failures is rarely sufficient to recover the damages caused by the failure situation. Accordingly, the empirical results convey that *proactive recovery outcome* as well as *reactive recovery outcome* has a negative impact on *relationship quality* in business markets.

The *recovery interaction dimension* exerts a positive impact on the quality of relationships in business-to-business markets. As reflected by the empirical findings, *proactive recovery interaction* exercises a positive impact on *relationship satisfaction*. In particular, it was revealed that the *rapport of employees, initiative of employees* and *feedback of employees* of the seller firm increase relationship satisfaction subsequent to failure situations. These findings are supported by equity theory since the proactive interaction measures are perceived by customers as increased inputs to the exchange relationship (Adams 1965, p. 283). Since these recovery measures reach beyond the contractual obligations of the seller firm, customers consider these measures as additional inputs to the exchange relationship, which reinstate an equitable state of the relationship (Walster, Berscheid and Walster 1973, p. 154) and increases satisfaction with the relationship (Oliver and Swan 1989, p. 33). As reflected by the qualitative interviews, the initiative of the seller firm to initiate recovery and provide proactive feedback has the potential to exceed customer expectations of recovery and create a positive impact on the business relationship. Moreover, the empirical findings reflect that *reactive recovery interaction* has a positive, but insignificant impact on the *relationship quality dimensions*. More specifically, it was identified that the *reliability of employees*, *commitment of employees* and *courtesy of employees* do not attain significant effects on *relationship trust*, *relationship commitment* and *relationship satisfaction.* These results are explained by equity theory since the reactive interaction measures of the seller firm are not considered by customers as increased inputs to the exchange relationship (Adams 1965, p. 283). Since the professional behavior of seller firm employees during failure situations is expected, customers are not moti-

vated to increase their inputs to sustain equity in the exchange relationship (Walster, Berscheid and Walster 1973, p. 154). As derived from the qualitative interviews, committed and courteous behavior of seller firm employees during the handling of failure situations is generally expected in business markets and does not yield substantial effects on the business relationship. Thus, the empirical results convey that *proactive recovery interaction* has a positive impact on *relationship quality*, whereas *reactive recovery interaction* has no significant impact on *relationship quality* in business markets.

With respect to the *moderating effects*, important insights have been derived from the results of the empirical investigations. As presented in paragraph 5.3.5.2, the moderating effects related to the *severity of failure* have been investigated. The empirical results convey that the *severity of failures* exerts a negative impact on the relationship between the *recovery dimensions* and *relationship quality dimensions*. In consistency with prior assumptions, the empirical results confirm that the larger the severity of the failure situation, the smaller is the impact of the *recovery dimensions* on the *relationship quality dimensions*. Based on the empirical results, the severity of the failure was found to reduce the positive impact of *proactive recovery process*, *reactive recovery process* and *reactive recovery interaction* on *relationship trust*. These findings may be explained by the notion that the larger the severity of the failure, the higher are the recovery efforts of the seller firm required to reestablish customer trust in the relationship. Furthermore, the empirical findings reflect that the severity of the failure reduces the positive effect of *proactive recovery process*, *proactive recovery interaction* and *reactive recovery interaction* on *relationship commitment* and increases the negative impact of *proactive recovery outcome* on *relationship commitment*. These results may be explicated by the conception that the larger the severity of the failure, the higher are the recovery efforts of the seller firm needed to regain customer commitment to the relationship. Moreover, the empirical outcomes reflect that severity of failure reduces the positive impact of *reactive recovery process* and *proactive recovery interaction* on *relationship satisfaction*. These findings may be elucidated by the assumption that the larger the severity of the failure, the higher are the recovery efforts of the seller firm expected to restore customer satisfaction with the relationship. In conclusion, the results from the empirical investigations suggest that the impact the moderating variable *severity of failure* on the relationship between the recovery measures of the seller firm and the quality of the relationship between the seller and the customer firm is considerable. In line with prior research (e.g., Craighead, Karwan and Miller 2004), it is proposed that the severity of the failure should be considered in decisions on recovery activities to ensure an effective recovery in business-to-business markets. In particular, seller firms are suggested to analyze the severity of the failure situation in the initial stages of the recovery process and adapt their recovery activities to the failure situation. On the basis of this approach, seller firms may be able to prevent the execution of "half-hearted" recovery activities, which lead to the deterioration of relationship quality after failure situations.

b.) Impact of recovery dimensions on relationship loyalty dimensions

The *recovery process dimension* exerts a positive impact on the *relationship loyalty dimensions* in business-to-business markets. The empirical results reflect that *proactive recovery process* has a positive effect on *repurchase intentions*, *expansion intentions* and *willingness to pay more*. In particular, the *prevention of failures*, *identification of failures* and *notification of failures* were found to increase the customer intentions to continue and expand purchases at the seller firm and to accept higher prices. These results may be explained by *social exchange theory* since the proactive process measures are perceived by customers to increase the economic benefits (i.e. lower failure costs) from the exchange relationship, which motivates the customer to continue and expand the relationship with the seller firm (Blau 1964, p. 91). Due to the superior benefits derived from the relationship compared to alternative relationships, the customer increases its dependency on the seller firm (Thibaut and Kelley 1959, p. 65) and, thus, is more likely to accept higher prices in the exchange relationship. As derived from the qualitative interviews, the identification of failures by the seller firm reduces the costs related to failures for seller and customer firms and decreases the price sensitivity of customer firms with respect to the products or services of the seller firm. In contrast, the empirical results reflect that *reactive recovery process* has a positive, but non-significant effect on *repurchase intentions*, *expansion intentions* and *willingness to pay more*. These results are explained by *social exchange theory* since the reactive process measures are not perceived to increase the economic benefits of customer firms and, therefore, do not motivate the customer to continue or expand the relationship with the seller firm (Blau 1964, p. 91). Based on the qualitative interviews, the timely response on failures by the seller firm is expected by customer firms on the basis of contractual agreements and does not yield specific effects on the relationship. Therefore, the empirical results reflect that *proactive recovery process* has a positive impact on *relationship loyalty*, whereas *reactive recovery process* has no impact on *relationship loyalty* in business markets.

The *recovery outcome dimension* reveals a negative effect on *relationship loyalty* in the context of business markets. The empirical findings disclose that *proactive recovery outcome* has a negative impact on *repurchase intentions*, *expansion intentions* and *willingness to pay more*. Accordingly, the *reduction of failures* and *explanation of failures* by the seller firm were found to reduce customer intentions to continue or expand the relationship with the seller firm and to accept higher prices. These results may be explained by *social exchange theory* since the economic benefits (i.e. lower future failures) of the proactive outcome measures are not immediately perceived by customers and, therefore, do not motivate the customer to continue or even expand the relationship (Blau 1964, p. 91). Due to the inferior benefits derived from the exchange relationship compared to alternative relationships, customers will reduce its dependency on the relationship (Thibaut and Kelley 1959, p. 65) and lower their intentions to accept price increases. According to the qualitative interviews, the improvement of products,

services or processes based on current failures requires time to implement so that benefits of these recovery measures may be perceived by customers only after some time. When these improvements are not perceived by customers, these benefits are not considered in their relationship evaluations. Furthermore, the empirical results reflect that *reactive recovery outcome* has a negative effect on *repurchase intentions, expansion intentions* and *willingness to pay more*. More specifically, the *apology for failures*, *resolution of failures* and *compensation of failures* was identified to reduce customer intentions to continue or expand purchases from the seller firm or pay higher prices for its products or services. These findings may be explicated by *social exchange theory* since the economic benefits (i.e. compensation of failures) from these recovery measures only cover a proportion of the losses caused by the failure situation. With respect to the perceived inferior benefits derived from the exchange relationship in comparison to alternative relationships, customers will not be motivated to continue or expand their purchases from the seller firm and increase its dependency on the seller firm (Thibaut and Kelley 1959, p. 65), but will focus on alternative relationships. Based on the qualitative interviews, the resolution and compensation of the failure situation by the seller firm based on mutual agreements fulfills the contractual obligations towards the customer firm. The relationship with the customer firm will deteriorate when the resolution and compensation of the seller firm is unable to recompense the loss caused by the failure situation. Therefore, the empirical results convey that *proactive recovery outcome* as well as *reactive recovery outcome* has a negative impact on *relationship loyalty* in business markets.

The *recovery interaction dimension* shows a positive effect on *relationship loyalty* in business-to-business markets. The empirical findings convey that *proactive recovery interaction* has a positive impact on *repurchase intentions*, *expansion intentions* and *willingness to pay more*. More specifically, the *initiative of employees*, *rapport of employees* and *feedback of employees* was identified to increase customer intentions to continue or expand their purchases from the seller firm and accept higher prices for its products or services. These findings are grounded in *social exchange theory* since these recovery measures increase the social benefits (i.e. personal support) of customers derived from the exchange relationship, which motivates customers to continue and expand the relationship with the seller firm (Blau 1964, p. 91). The perceived superior benefits lead to the negligence of alternative relationships by customer firms, which increases its dependency on the seller firm (Thibaut and Kelley 1959, p. 65) and raises its tendency to accept price increases. As taken from the qualitative interviews, the initiation of recovery activities by seller firm employees is perceived favorably by the customer firm and increases the intentions to continue or expand buying products or services from the seller firm. In contrast, the empirical results reflect that *reactive recovery interaction* has a positive, but non-significant effect on *repurchase intentions*, *expansion intentions* and *willingness to pay more*. These findings may be explained by the *social exchange theory* since these recovery measures are not perceived to increase the social benefits of the customer and

do not motivate customers to continue and expand the relationship with the seller firm (Blau 1964, p. 91). As derived from the qualitative interviews, the dedicated and courteous behavior of seller firm employees during the handling of failure situations is expected by customer firms and, thus, does not create positive effects on the business relationship. Hence, the empirical results reflect that *proactive recovery interaction* has a positive impact on *relationship loyalty*, whereas *reactive recovery interaction* has no impact on *relationship loyalty* in business markets.

In conclusion, the findings derived from the empirical investigation provide important contributions on the *relational consequences of recovery management in business-to-business markets*. First, the findings reflect that the *relationship quality* between seller and customer firms may be significantly improved by the *prevention*, *identification* and *notification of failures* as well as the *initiative*, *rapport* and *feedback by seller firm employees*. Based on these recovery measures, the seller firm may be able to increase *relationship commitment* and *relationship satisfaction* of customer firms. Second, the results convey that the *relationship loyalty* between seller and customer firms may be considerably enhanced by the *prevention of failures*, *identification of failures* and *notification of failures* as well as the *initiative of employees*, *rapport of employees* and *feedback of employees*. On the basis of these recovery measures, the seller firm may be able to increase the *continuation intentions* and *expansion intentions* of customer firms as well as their *willingness to pay more*. These results are consistent with the findings of previous research (Hutt and Speh 2004, p. 38), which reflects that higher product or service quality (i.e. recovery) resulting in lower failures could justify paying higher prices for products or services. Third, the findings illustrate that *relationship quality* and *relationship loyalty* may not be improved by the *reduction of failures* and *explanation of failures* as well as the *apology for failures*, *resolution of failures* and *compensation of failures*. These findings are in contrast to prior findings, which have stressed the critical role of compensation for the effectiveness of recovery (Bonifield and Cole 2008, p. 573; Fang, Luo and Jiang 2013, p. 13; Kim and Ulgado 2012, p. 163). The empirical findings of this thesis reflect that compensation represents an ineffective measure to restore customer relationships in business markets after failure situations. Since only compensation levels equivalent to the loss caused by the failure situation may be sufficient to restore the relationship, compensation constitutes an expensive and questionable recovery measure in business-to-business markets. These results are consistent with the findings of Worsfold, Worsfold and Bradley (2007), who argued that compensation "may not always be affordable and may not always be the most effective approach" (p. 2515). Instead of attempting to "buy" relationship quality or loyalty by the means of overcompensating customers in failure situations, seller firms are recommended to focus on *proactive recovery process* and *proactive recovery interaction* to restore customer relationships subsequent to failure situations. On the basis of the empirical findings of the present thesis,

these recovery measures are more effective in restoring customer relationships in business-to-business markets.

Relationship dimensions / **Recovery dimensions**	Relationship trust	Relationship commitment	Relationship satisfaction	Repurchase intentions	Expansion intentions	Willingness to pay more
Proactive recovery process	.125 n.s	.457 **	.176 **	.190 **	.173 **	.154 **
Reactive recovery process	.196 n.s	.052 n.s.	.144 n.s.	.105 n.s.	.079 n.s.	.069 n.s.
Proactive recovery outcome	--	-.158 n.s.	-.258 **	-.163 **	-.198 **	-.135 *
Reactive recovery outcome	-.404 *	-.493 **	-.190 **	-.234 **	-.151 *	-.167 **
Proactive recovery interaction	--	.119 n.s.	.169 *	.110 *	.132 *	.092 *
Reactive recovery interaction	.151 n.s	.220 n.s.	.085 n.s.	.101 n.s.	.071 n.s.	.074 n.s.

*Notes: significance levels: * p < .10 ** p < .05 *** p < .01*

Table 6.1: Total effects of recovery dimensions on relationship dimensions
Source: own illustration

The *third research question* was related to the different impact of proactive and reactive recovery dimensions on customer relationships in business markets and was defined as:

3. What is the impact of proactive vs. reactive recovery dimensions on relationships in a business-to-business context?

In response to the third research question, the impact of proactive versus reactive recovery dimensions on customer relationships has been investigated. Based on the *total effects* derived from the quantitative investigation, a comparison of the impact of *proactive* versus *reactive recovery dimensions* on *relationship quality* and *relationship loyalty* was conducted (cf. table 6.2).

For the *recovery process dimension,* the findings reflect a consistent perspective on the impact of proactive versus reactive recovery measures on customer relationships. With respect to the *relationship quality dimensions*, the empirical findings reflect that *proactive recovery process* has a stronger, positive impact on *relationship commitment* and *relationship satisfaction* than

reactive recovery process. In terms of the *relationship loyalty dimensions*, the empirical outcomes convey that *proactive recovery process* has a stronger, positive impact on *continuation intentions*, *expansion intentions* and *willingness to pay more* compared to *reactive recovery process*. Based on these results, it gets apparent that *proactive recovery process* exerts a larger impact on customer relationships than *reactive recovery process*. These findings may be explained by the notion that *proactive recovery process* measures (i.e. prevention, identification and notification of failures) are perceived by customers as extraordinary efforts of the seller firm, which exceed the contractual obligations towards the customer firm and, thus, create a superior impact on the customer relationship. In contrast, *reactive recovery process* measures (i.e. response, analysis and controlling of failures) probably are perceived as obligatory efforts of the seller firm, which are defined by contractual agreements.

For the *recovery outcome dimension*, the results illustrate an ambiguous perspective on the effects of proactive versus reactive recovery measures on the relationship with customers. In terms of the *relationship quality dimensions*, the empirical outcomes reflect that *proactive recovery outcome* has a stronger, negative effect on *relationship satisfaction* than *reactive recovery outcome*, whereas the opposite is true for *relationship commitment*. With respect to the *relationship loyalty dimensions*, the empirical findings illustrate that *proactive recovery outcome* has a larger, negative impact on *expansion intentions* than *reactive recovery outcome*, while the opposite is true for *continuation intentions* and *willingness to pay more*. On the basis of these results, it gets evident that *proactive recovery outcome* exerts a larger impact on relationships than *reactive recovery outcome* only for selected outcome variables. These findings may be explicated based on the conception that the *reactive recovery outcome* measures (i.e. apology, resolution and compensation of failures) are perceived by customers as obligatory recovery efforts of the seller firm that are necessary to stabilize the relationship after failures and, thus, emit a stronger impact on the fundamental *relationship quality* (i.e. relationship trust, relationship commitment) and *relationship loyalty* dimensions (i.e. continuation intentions, willingness to pay more). In contrast, *proactive recovery outcome* measures (i.e. explanation and reduction of failures) are presumably perceived by customers as extraordinary recovery efforts of the seller firm that enhance the relationship after failures and, hence, exert a stronger impact on the advanced *relationship quality* (i.e. relationship satisfaction) and *relationship loyalty* dimensions (i.e. expansion intentions).

For the *recovery interaction dimension*, the findings convey a uniform perspective on the impact of proactive versus reactive recovery measures on customer relationships. With respect to the *relationship quality dimensions*, the empirical findings show that *proactive recovery interaction* has a stronger, positive impact on *relationship satisfaction* than *reactive recovery interaction*. In terms of the *relationship loyalty dimensions*, the empirical results reflect that *proactive recovery interaction* has a larger, positive impact on *continuation intentions*, *expan-*

sion intentions and *willingness to pay more* compared to *reactive recovery interaction*. Based on these findings, it becomes apparent that *proactive recovery interaction* exerts a larger impact on customer relationships than *reactive recovery interaction*. These findings may be elucidated by the notion that *proactive recovery interaction* measures (i.e. rapport, initiative and feedback of employees) are perceived by customers as extraordinary efforts of the seller firm that reach beyond contractual obligations and, thus, generate a larger impact on customer relationships than *reactive recovery interaction* measures.

Relationship dimensions / **Recovery dimensions**	Relationship trust	Relationship commitment	Relationship satisfaction	Repurchase intentions	Expansion intentions	Willingness to pay more
Proactive recovery process	.125 n.s.	**.457 ****	**.176 ****	**.190 ****	**.173 ****	**.154 ****
Reactive recovery process	.196 n.s.	.052 n.s.	.144 n.s.	.105 n.s.	.079 n.s.	.069 n.s.
Proactive recovery outcome	--	-.158 n.s.	**-.258 ****	-.163 **	**-.198 ****	-.135 *
Reactive recovery outcome	-.404 *	**-.493 ****	-.190 **	**-.234 ****	-.151 *	**-.167 ****
Proactive recovery interaction	--	.119 n.s.	**.169 ***	**.110 ***	**.132 ***	**.092 ***
Reactive recovery interaction	.151 n.s.	.220 n.s.	.085 n.s.	.101 n.s.	.071 n.s.	.074 n.s.

*Notes: significance levels: * p < .10 ** p < .05 *** p < .01; bold figures denote superior effects*

Table 6.2: Total effects of proactive vs. reactive recovery on relationship dimensions
Source: own illustration

In conclusion, the empirical results derived from the quantitative investigation underscore the important role of the *proactive perspective* on recovery management in business markets. With respect to the *recovery process* and *recovery interaction* dimensions, *proactive recovery measures* were found to yield a larger impact on the relationship dimensions than *reactive recovery measures*. In terms of the *recovery outcome* dimension, *proactive recovery measures* generated a larger impact on some relationship dimensions, whereas *reactive recovery measures* reflected a larger impact on the remaining relationship dimensions. On the basis of the findings of this thesis, it seems advisable to focus on the proactive perspectives of the recovery process and recovery interaction dimensions since these perspectives yield a superior impact on customer relationships after failure situations. In terms of the *recovery outcome*

dimension, extensive care should be taken with the selection of recovery measures. Due to the negative impact of these measures on the customer relationship, seller firms should try to assess the expectations of customer firms regarding these measures and adapt their activities to meet these expectations, within the scope of the contractual agreements.

The *fourth research question* has been related to the financial consequences of recovery management in the context of business-to-business markets and was defined as:

4. What is the impact of recovery dimensions on financial firm performance in a business-to-business context?

To answer the *fourth research question*, the effects of the recovery dimensions on the financial performance of seller firms have been investigated in the *recovery management model* (cf. paragraph 5.4). On the basis of the *direct effects* derived from the quantitative investigation, the impact of the *recovery dimensions* on the *profitability* of the seller firm has been investigated on the basis of two independent causal paths (cf. table 6.3).

With respect to the *first* causal path, it was discovered that *recovery management quality* results in higher *revenues* of the seller firm, which increases the *profitability* of the seller firm. The empirical findings confirm that the quality of recovery management exerts a positive impact on the revenues of the seller firm, which has a positive effect on the profitability of the seller firm. Therefore, it is postulated that seller firms, which have implemented an effective recovery management, are able to *identify failures on their own initiative*, *initiate failure handling processes to customers*, *quickly analyze failures* and *monitor the reoccurrence of failures*. On the basis of these characteristics, customer firms expect to receive products or services of higher quality and superior support in failure situations from seller firms in business markets, which makes customers willing to purchase more products or services from the seller firm and accept higher prices for the products or services from the seller firm. In turn, higher revenues at the seller firm result in scale effects in the development, production and delivery process of products or services, which reduces the costs of the respective products or services. The achievement of higher prices for the products or services leads to the improvement of the profitability of the associated products or services of the seller firm. Since this profitability effect is based on the capability to generate higher revenues through effective recovery management, it has been defined as the *revenue increase effect* of recovery management, which represents an *external effect* since it is related to the customer base of seller firms. According to this effect, seller firms are able to improve their financial performance by increasing their revenues through higher sales and higher prices associated with their products or services facilitated by an effective recovery management. These findings are consistent with recent research (Gonzalez et al. 2010, p. 229), which found that the impact of recovery on financial performance measures is mediated by customer performance measures.

In terms of the *second* causal path, it was identified that *recovery management quality* results in lower *recovery costs* for the seller firm, which ultimately increases the *profitability* of the seller firm. In particular, the empirical results affirm that the quality of recovery management exerts a negative effect on the recovery costs of seller firms. Nevertheless, the negative impact of recovery costs on the profitability of the seller has been empirically detected, but only at a non-significant level. Therefore, it is concluded that seller firms, which have implemented an effective recovery management, are capable to *prevent failures from occurring*, *mitigate failure effects by early information, quickly resolve failures* and *reduce the number of future failures*. Based on these capabilities, seller firms in business markets are able to reduce the failure costs in their organization as well as in the customer organization leading to the reduction of failure costs in the relationship. The seller firm directly reduces its own failure costs by reducing the number of failures and the time required for the resolution of failures, which reduces the internal resources (i.e. time, personnel, and capital) dedicated to failure handling. The seller firm indirectly reduces its failure costs by decreasing the number of failures and the damages caused by failures at the customer firm, which results in lower compensation claims by customers. As this effect is based on the capacity to attain lower failure costs from effective recovery management, it has been defined as the *cost decrease effect* of recovery management, which characterizes an *internal effect* since it is related to the seller firm. According to this effect, seller firms may be able to enhance their financial performance by reducing their recovery costs through lower failure costs at their own and their customer organizations on the basis of effective recovery. These findings are consistent with prior research (Priluck and Lala 2009, p. 42), which noted that effective recovery may reduce the costs associated with recovery.

Financial performance measures / **Recovery performance measures**	Revenues	Recovery costs	Profitability
Recovery management quality	.111 *	-.206 **	--
Revenues	--	--	.231 *
Recovery costs	--	--	-.051 n.s.
*Notes: significance levels: * p < .10 ** p < .05 *** p < .01*			

Table 6.3: Direct effects of recovery management on financial performance measures

Source: own illustration

In conclusion, the empirical findings of this thesis support the conception that *recovery management* exerts a positive impact on the *financial performance* of seller firms in business-to-business markets and, therefore, can be considered as a source of additional profits rather than diminishing returns. Since marketing activities are generally required to disclose their contri-

bution to the "bottom-line" (Lehmann 2004, p. 74), the contributions of recovery management to the financial situation may enhance corporate decisions on the implementation of recovery management concepts at seller firms. As noted by previous research (Palmatier, Gopalakrishna and Houston 2006, p. 488), it needs to be considered that leveraging the positive effects of marketing activities on financial firm performance takes time since internal as well as external processes need to be changed. Nonetheless, it is postulated that seller firms in business markets taking the decision to implement a recovery management system are able to improve the quality of their products and services, enhance their customer relationships and ultimately increase their financial performance in comparison to competitors having not chosen to take this decision.

6.2 Theoretical implications

From a *theoretical perspective*, the findings derived from this thesis were intended to advance the current state of knowledge in the marketing and service research disciplines. In particular, the present thesis offers three fundamental contributions to academic research associated with recovery.

a.) Development of an integrated recovery management framework for business markets

First, this thesis represents the initial approach to extend the conceptual foundation of recovery management to the business market context. Existing conceptualizations of recovery management have been developed in consumer markets and, thus, are not directly transferable to the business market context. Since a comprehensive conceptualization of recovery management for business markets was lacking in contemporary literature (cf. paragraph 2.2), the *recovery management framework* developed in this thesis represents the first conceptualization of recovery management for the business-to-business context. In particular, the findings of this thesis confirm that the specific conditions of business markets for recovery (i.e. *criticality*, *rationality* and *mutuality*) require specific *conceptual recovery dimensions* for business-to-business markets. Since the development of the recovery management framework was grounded in qualitative research conducted in business markets, the conceptual foundation of this framework uniquely considers the fundamental characteristics of and requirements for recovery in this market context. On the basis of this theoretical framework, recovery research may emerge to explore the infant domain of recovery management in business markets and dedicate more attention to this relevant, but so far neglected research field.

b.) Identification of impact of recovery management on customer relationships

Second, the present thesis has rendered a profound perspective on the specific effects of recovery management on the relationships between seller and customer firms in business markets. More specifically, the results of this thesis provide new insights on the *relational consequences of recovery management* in the context of business-to-business markets. While previ-

ous research has largely focused on discrete relationship quality variables (i.e. trust, satisfaction), the *recovery relationship model* developed in this thesis represents the initial approach to investigate the combined effects of recovery measures on the quality of buyer-seller relationships in business markets. The recovery relationship model constitutes the first empirical approach to link recovery measures with relationship loyalty dimensions through relationship quality dimensions. The present investigation responds to previous research, which has called for further research to aggregate the relevant outcome measures to comprehend the overall contributions of recovery (Bhandari, Tsarenko and Polonsky 2007, p. 182). Based on the *recovery relationship model*, it was identified that the recovery process and recovery interaction dimensions exert a positive impact on the relationship dimensions, whereas the recovery outcome dimensions yield a negative impact on the relationship dimensions in business markets. Since these findings are in contrast to the findings of previous studies from consumer markets (Fang, Luo and Jiang 2013, p. 13), which have stressed the fundamental role of recovery outcome measures (i.e. compensation), the present thesis raises empirical evidence on the questionable role of compensation in the context of recovery. Furthermore, the findings of this thesis contribute empirical evidence on the discussion about the role of the proactive versus reactive perspective in recovery research. Therefore, the present thesis responds to previous research, which has suggested investigations on the impact of the proactive perspective on customer evaluations of recovery (Vázquez-Casielles, Iglesias and Varela-Neira 2012, p. 83). The empirical findings of this thesis confirm the superior role of the proactive perspective with respect to the recovery process and the recovery outcome dimensions, but the ambiguous role of the proactive perspective in terms of the recovery outcome dimension. On the basis of these findings, the present thesis provides ground for further research on the role of the proactive versus reactive perspective in recovery research. Overall, the insights derived from this thesis emphasize the relevant theoretical contributions of recovery management to the relationship management domain. Considering the significant impact of the recovery dimensions on the relationship quality dimensions identified in this thesis, recovery should be granted a permanent role in relationship management concepts in business markets.

c.) Confirmation of impact of recovery management on financial performance

Third, the thesis has contributed a more profound understanding of the impact of recovery management on the financial performance of seller firms in business markets. In particular, the findings of this thesis have developed a more detailed comprehension of the *financial contributions* of recovery management in the business market context based on objective data, which has been largely neglected by previous research. Although several studies have suggested a positive impact of recovery on the financial situation of the seller firm, empirical evidence on the financial contributions of recovery management remains scarce in recovery research (Gonzalez et al. 2010, p. 229). The *recovery management model* developed in this thesis revealed the bi-directional effects of recovery on the financial performance of seller

firms. On the basis of the *revenue increase effect*, it was found that effective recovery management increases the revenues of the seller firm by increased purchases and higher prices, which reflects positively on the profitability of the seller firm. Based on the *cost decrease effect*, it was identified that effective recovery management decreases the recovery costs of the seller firm by faster resolution and lower number of failures, which has a positive, but non-significant impact on the profitability of the seller firm. Consequently, the findings of this thesis do not only reveal *that*, but also *how* recovery management influences the financial performance of the seller firm. On the basis of these findings, the question raised by previous research (Johnston and Michel 2008, p. 94) may be answered that recovery investments can be considered as drivers of financial performance rather that sunk costs. These insights may facilitate further academic research to analyze and quantify the financial implications of recovery management in business markets.

In conclusion, the insights derived from this thesis are aspired to advance contemporary research in terms of the characteristics and the consequences of recovery management in business markets. In particular, the thesis provides fundamental, often novel insights, which are expected to stimulate the expansion of recovery research in the context of business-to-business markets.

6.3 Practical implications

From a *practical perspective*, the findings derived from this thesis were supposed to advance the current state of knowledge in marketing and service management practice. In particular, the practical implications of the investigation are intended to develop the knowledge and skills of seller firms and their employees to effectively handle failure situations towards their customers in the context of business markets. In particular, the present thesis provides three elementary contributions to recovery practice in business-to-business markets.

a.) Implementation of recovery management based on integrated framework

First, the thesis has identified, structured and integrated the fundamental dimensions of recovery into a comprehensive *recovery management framework* for business-to-business markets. Since seller firms frequently encounter problems to fulfill customer expectations regarding the effective handling of failure situations (Johnston and Michel 2008, p. 94), a recovery framework specific to business markets has been developed to illustrate the fundamental recovery measures required for the business-to-business market context. In particular, this framework was developed on the basis of qualitative interviews with practitioners from seller and customer firms in business markets to capture the specific requirements for and characteristics of recovery in this market context. Based on this framework, seller firms are able to develop, implement and improve an integrated recovery management system within their organization to increase the effectiveness of handling product or service failures towards their customers.

Besides this conceptual framework, the present thesis provides practical advice for the implementation of recovery measures into the business processes of seller firms (cf. appendix 5). For the evaluation of its recovery performance, seller firms are recommended to use the *quality of recovery management* measure developed in this thesis reflecting areas for further improvements related to the *recovery management system*. In general, seller firms may conduct internal audits on the basis on the recovery framework to review and improve the maturity level of their recovery management system as suggested by prior research (Gonzalez et al. 2010, p. 233). In addition, seller firms may use this framework for workshops with internal or external customers to illustrate, develop and optimize the interorganizational failure handling processes in business markets. As suggested by the findings of this thesis, seller firms are required to adapt their internal processes and train their personnel to ensure an effective handling of failure situations in business-to-business markets. Since the responsibilities for failure handling are often spread across departments (Hutt and Speh 2004, p. 282), an effective recovery management requires the successful integration of the functional areas of the seller firm (i.e. sales, production, quality, development and customer service) into virtual, multifunctional "recovery teams" to implement a consistent set of recovery activities towards their customers.

b.) Enhancement of customer relationships through effective recovery management

Second, the present thesis has identified the specific effects of recovery measures on the relationship between seller and customer firms in business-to-business markets. On the basis of the *recovery relationship model*, it was disclosed that certain recovery measures of the seller firm are able to restore and enhance *relationship quality* after failure situations. In particular, the findings of this thesis reflect that *relationship commitment* may be enhanced by the prevention, identification and notification of failures by the seller firm, whereas *relationship satisfaction* may be facilitated by the prevention, identification and notification of failures by the seller firm as well as the initiative, rapport and feedback by seller firm employees. Furthermore, the results of this thesis convey that the recovery measures of the seller firm are capable to increase *relationship loyalty* after failure situations. More specifically, the results of this thesis disclosed that the *continuation intentions*, *expansion intentions* and *willingness to pay more* of customers may be increased by the prevention, identification and notification of failures by the seller firm as well as the initiative, rapport and feedback by seller firm employees. Nevertheless, these findings raise concerns on the effectiveness of compensation or apologies as recovery measures in business markets. Based on the empirical results of this thesis, compensation should only be used with caution to restore *relationship quality* or *relationship loyalty* after failure situations. Since the compensation of failures is directly related to the financial performance of the seller firm, it should be limited to contractual obligations towards the customer firm to avoid the "overcompensation" of customers. From a contextual perspective, the effectiveness of recovery measures is determined by the failure situation. The findings of

this thesis suggest that seller firms need to consider the *severity of the failure* to be able to adapt their recovery activities to the specific failure situation. On the basis of these findings, seller firms are facilitated to increase the effectiveness of their recovery activities to develop more intensive and enduring customer relationships in business-to-business markets.

c.) Improvement of financial performance through effective recovery management

Third, this thesis has obtained important evidence on the financial contributions of recovery management in business-to-business markets. On the basis of the *recovery management model*, it was identified that an effective recovery management has the potential to increase the profitability of the seller firm. More specifically, the empirical findings suggest that the financial performance of the seller firm may be enhanced by higher revenues (i.e. *revenue increase effect*) and lower recovery costs (i.e. *cost decrease effect*) resulting from an effective recovery management. As suggested by prior research (Parasuraman 2006, p. 591), the consideration of benefits and costs of recovery allows seller firm to develop an effective as well as efficient management of recovery activities. Therefore, seller firms may utilize these findings to improve their products, services and processes to optimize the allocation of their resources and ensure an efficient recovery management. Based on the insights derived from this thesis, seller firms are enabled to integrate financial performance measures in their recovery management systems to trace the financial contributions of recovery. On the basis of its tangible contributions to the financial performance of the seller firm, recovery management is assumed to attain increasing managerial attention in business-to-business markets.

In conclusion, the insights developed by this thesis are desired to extend the current state of knowledge of recovery practice in business markets. The thesis offers relevant, new insights for seller firms, which are expected to support the development of recovery strategies to enhance *customer relationships* and *financial performance* against the background of failure situations.

6.4 Limitations and avenues for future research

Despite these fundamental contributions, a number of conceptual and empirical limitations need to be acknowledged with respect to the present thesis. These limitations need to be considered before transferring the empirical findings to different contexts in recovery research and practice.

In the *qualitative investigation*, the *completeness of the recovery dimensions* may be considered as a *conceptual limitation* of this thesis. Although the established procedures for the collection and analysis of qualitative data were applied for the development of the recovery management framework, it is possible that important recovery measures relevant for the business market context were disregarded. To eliminate this potential limitation, future studies are sug-

gested to verify and confirm the recovery dimensions developed in this thesis based on the measurement scales stated in appendix 4.

In the *quantitative investigation,* the *key informant approach* used for the collection of quantitative data from seller and customer firms may be considered as a *methodological limitation*. According to quantitative research literature, a key informant approach poses the risk of an *informant bias* where the response behavior of participants may be distorted by its implicit theories or hierarchical position (Hurrle and Kieser 2005, p. 585). Although extensive efforts (i.e. initial and follow-up telephone calls) were made to identify the most knowledgeable individuals for participating in the survey and safeguard the results against an informant bias (i.e. selection based on experience level), the use of a *multiple respondent approach* may have yielded different results. To rule out this potential limitation, further research is proposed to replicate the findings in studies with multiple respondents. In addition, the *variance-based estimation procedure* used for the analysis of quantitative data from seller and customer firms may be regarded as a *methodological limitation*. Since variance-based procedures (i.e. PLS) do not allow the calculation of global "goodness of fit" measures, a lower utility of variance-based compared to covariance-based estimation procedures for the extensive testing of theories has been stated (Henseler, Ringle and Sinkovics 2009, p. 296). Although variance-based procedures have been considered as adequate for the development of theories by previous research (Klarmann 2008, p. 22) and a profound evaluation of the validity of findings has been conducted, covariance-based estimation procedures may have yielded different results. Therefore, future research is proposed to replicate the findings of this thesis on the basis of *covariance-based procedures*. At last, the *moderate sample sizes* generated in the collection of quantitative data from seller and customer firms may be perceived as a *methodological limitation*. Despite substantial efforts to convince individuals to participate in the survey (i.e. initial telephone calls, assurance of confidentiality, incentives for participation), only moderate sample sizes could be generated in the seller firm survey (n = 210) and the customer firm survey (n = 103). Based on the feedback of non-participants, these moderate sample sizes may be largely related to the sensitivity of the research topic and the resistance to disclose information on failures to third parties. Although extensive efforts were made to ensure the reliability and validity of the empirical findings, an investigation based on more extensive sample sizes may have yielded different results. Consequently, future studies may replicate the results of this thesis based on *larger samples sizes* to verify the findings and eliminate the prevailing reliability risks.

Based on the theoretical and empirical findings derived from this thesis, the following promising avenues for future research in the recovery discipline are suggested, which may offer fruitful contributions to the recovery research domain.

a.) Recovery management from a global perspective

As derived from the qualitative interviews, respondents reflected the increasing challenge of handling failure situations with global customers across different regions and cultures. Due to the advancing process of globalization, seller firms are increasingly facing customers from a different cultural backgrounds (Wong 2004, p. 957). With respect to the different cultural values relevant for the effectiveness of recovery (e.g., Mattila and Patterson 2004; Wong 2004), the findings derived from this thesis may not be transferable to different cultural contexts. Since cultural settings significantly differ between countries (e.g., Hofstede 2001), future research on recovery in business-to-business markets may identify and integrate the cultural conditions relevant for the effectiveness of recovery measures to expand the scope of recovery research to a global perspective.

b.) Recovery management from a marketing perspective

As obtained from the qualitative interviews, participants from seller firms conveyed enduring problems to promote the recovery activities of the seller firm as additional attributes of their products or services to establish a competitive advantage in the market place and defend higher prices for their products or services. To differentiate their products or services from competition and obtain higher prices for their products or services, seller firms need to develop effective ways to market their recovery activities as separate attributes or integrated elements of their market offerings towards their customers. In previous research, service guarantees have been suggested to increase purchase intentions of customers (Boshoff 2003, p. 43) and have been identified to facilitate the effectiveness of recovery (Lidén and Skålén 2003, p. 55). Consequently, recent research has suggested investigating the role of service guarantees in the context of recovery (Hogreve and Gremler 2009, p. 337). For this reason, future research is recommended to investigate the role of service guarantees to initiate and support recovery activities towards customers and its impact on the effectiveness of recovery.

Despite the limitations of the investigation, the findings presented in this thesis are expected to contribute to the theoretical and practical advancement of *recovery management in business-to-business markets*. On the basis of the *conceptual dimensions*, *relational consequences* and *financial contributions of recovery management in business-to-business markets* derived from this thesis, it is desired that seller firms and customer firms equally benefit from these insights to advance the *effectiveness* and *efficiency* of handling failure situations in business-to-business markets.

Appendices

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7, © Springer Fachmedien Wiesbaden 2014

Appendix 1: Empirical studies on seller-related research on recovery

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Kelley, Hoffman and Davis (1993)	• Analysis of effects of recovery in a retailing context	• Written survey among consumer in the USA (n=661) • Products and services (retailing)	• Critical incident technique • Group comparison	• Classification of *recovery measures*: discount, correction, employee intervention, correction plus, replacement, apology, refund, customer initiated correction, store credit, unsatisfactory correction, failure escalation, nothing
Hoffman, Kelley and Rotalsky (1995)	• Development of typology of failures and recoveries	• Written survey among consumers in the USA (n=373) • Services (restaurants)	• Critical incident technique • Analysis of variance	• Identification of eight *recovery strategies*: free of charge, discount, coupon, managerial intervention, replacement, correction, apology, no action • Effectiveness of *recovery strategies*: recovery strategies based on compensation (free food, discounts, coupons) were most effective, whereas recovery strategies based on correction of failure, apology and doing nothing were least effective
Johnston (1995)	• Analysis of customer perceptions of failures / adequate recovery measures	• Written survey among consumers in the USA (n=112) • Products and services (several)	• Critical incident technique • Factor analysis	• Most relevant *recovery attributes* for service employees: attentiveness, concern, empathy, responsiveness, flexibility • Most relevant *recovery activities*: communication, (pro)activity, engagement, involvement
Boshoff (1997)	• Analysis of recovery options	• Interviews among consumers in South Africa (n= 540) • Scenario-based experimental research design (3x3x3)	• Factor analysis • Tukey test	• Service recovery satisfaction is positively influenced by - atonement - time - interaction of time and hierarchy - interaction of time and atonement - interaction of atonement and hierarchy

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (airlines)		
Boshoff and Leong (1998)	• Analysis of recovery dimensions	• Group interviews among students in New Zealand (n=239) • Scenario-based experimental research design (3x3x3) • Services (airlines, banking)	• Conjoint analysis • Factor analysis • Multiple regression analysis	• Recovery satisfaction is not influenced by - pre-failure perceptions / attitudes • Service recovery dimensions vary in their importance to customers: - attribution is more important than empowerment - empowerment is more important than mode of apology
Hocutt and Stone (1998)	• Analysis of effects of employee empowerment on job satisfaction and customer satisfaction	• Written survey among consumers in the USA (study 1: n=108, study 2: n=221) • Scenario-based experimental research design • Services (restaurants)	• Analysis of variance • T-tests	• Job satisfaction is positively influenced by - autonomy - training • Consumer satisfaction is positively influenced by - responsiveness - empathy / courtesy - interaction of empathy and responsiveness
Lockshin and McDougall (1998)	• Analysis of failures and recovery strategies	• Telephone survey among buyers in Australia (n=75) • Services (wine retailing)	• Critical incident technique • Qualitative analysis of critical incidents • T-tests	• Fundamental characteristics of recovery strategies in business markets: - number of contacts necessary for problem resolution - length of time necessary for problem resolution - success of problem resolution
Tax and Brown (1998)	• Analysis of effective recovery processes,	• Written survey among consumers in the USA	• Qualitative data analysis	• Definition of four phases of recovery process: - identification of failures

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
	evaluations and strategies	(n=324) • Services		- resolution of customer problems - communication and classification of failures - integration of data and improvement of service quality • Identification of strategies for successful recovery: - hiring, training and empowerment of employees - development of guidelines on recovery - provision of convenient access and response through call centers - maintenance of product and customer databases
Boshoff and Allen (2000)	• Analysis of effects of organizational variables on recovery performance of frontline employees	• Written survey among service employees in South Africa (n=262) • Services (banking)	• Qualitative interviews • Exploratory factor analysis • Maximum Likelihood	• Service recovery performance is positively influenced by - organizational commitment - empowerment - rewarding customer service excellence • Service recovery performance has a positive impact on - job satisfaction • Service recovery performance has a negative impact on - intentions to resign
Michel (2001)	• Analysis of recovery from a process-based perspective	• Telephone-based interviews among consumers in Switzerland (n=1061) • Services (banking)	• Qualitative data analysis involving an open coding procedure • Analysis of variance • Multivariate analysis of variance • Chi-square analysis	• Identification of sub-categories for recoveries: - *Distributive justice*: financial loss, apology, problem solved, new problem created, miscellaneous - *Procedural justice*: sense of responsibility, delay in problem solving, prompt service, inconvenience, follow-up, flexibility - *Interactional justice*: kindness, empathy, commitment, explanation of process / cause, honesty, positive attitude • Results of recovery efforts:

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- customers experiencing recovery performance above expectations reflect higher satisfaction than customer experiencing no failure - recovery paradox differs between service processes
Craighead, Karwan and Miller (2004)	• Analysis of effects of contextual factors on recovery strategies	• Written survey among students in the USA (n=437) • Services (several)	• Critical incident technique • Factor analysis • Cluster analysis • Analysis of variance • Multiple regression analysis	• Identification of three types of recovery strategies: - *severity reduction*: reduction of perceived negative failure consequence while maintaining customer loyalty - *maintenance*: avoiding a worsening of the situation - *reduce and develop*: reduction of the severity of the failure and development of customer loyalty
DeJong and DeRuyter (2004)	• Analysis of recovery process attributes	• Written survey among bank employees (n=809) and customers (n=1724) in the Netherlands • Services (banking)	• Principal component analysis • Confirmatory factor analysis • Hierarchical linear modeling	• Adaptive and proactive recovery behavior is positively influenced by - empowerment (individual-level) - customer complaint management (individual-level) - interteam support (individual-level) - intrateam support (individual-level) - intrateam support (group-level) - age (group-level) • Adaptive recovery behavior has a positive impact on - service recovery satisfaction - loyalty intentions • Proactive recovery behavior has a positive impact on - share of customer
Zhu, Sivakumar and	• Analysis of optimal allocation of recovery resources	• Mathematical modeling approach	• Comparative statistics	• Findings reflect that under a high degree of substitutability - recovery matching strategy is suboptimal - recovery matching strategy increases recovery expenses

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Parasuraman (2004)				• Effective recovery strategies should consider - current customer value perceptions - future customer revenue contributions • Five steps for the implementation of optimal recovery strategies: - specification of model parameters based on data, knowledge and intuition - insertion of information on specific failure incidents into the model - derivation of optimal recovery strategy from the model - allocation of recovery resources according to optimal solution - execution of proposed recovery strategy
Simons and Kraus (2005)	• Analysis of optimal allocation of recovery investments	• Fictitious calculation	• Analytical modeling • Lagrangian formulations	• *SRAP 1*: Maximization of overall system reliability - if cost functions are identical for each stage, the best solution is achieved by allocating recovery investments to the weakest stage - if cost functions are different for each stage, the best solution is achieved by balancing costs and benefits at each particular stage • *SRAP 2*: Minimization of dissatisfied customers - if cost functions are identical for each stage, the best solution is achieved by allocating recovery investments to the recovery action that is most successful at that particular stage - if cost functions are different for each stage, the best solution is achieved by allocating recovery investments to the least expensive stage
Johnston and Michel (2008)	• Analysis of effects of recovery procedures on recovery	• Written survey among service managers in the UK (n=60)	• Correlation analysis	• Recovery procedures have a positive impact on - *customer recovery*: customer satisfaction, customer retention - *employee recovery*: employee attitude, employee retention

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
	dimensions and financial performance	• Services (several)		- *process recovery*: process improvement • Financial performance is positively influenced by - *customer recovery*: customer satisfaction, customer retention - *employee recovery*: employee attitude, employee retention - *process recovery*: process improvement
Lin (2009)	• Analysis of effects of empowerment and corporate culture on recovery strategies	• Written survey among employees in Taiwan (n=107) • Products (food)	• Factor analysis • Fuzzy neural networks	• Higher degree of empowerment leads to more active recovery strategies • Tougher corporate culture leads to more reactive recovery strategies • Higher customer relationship involvement leads to higher adoption of service recovery strategies
Michel, Bowen and Johnston (2009)	• Analysis of the tensions / drivers of effective recovery	• Review of academic articles (n=141) • Services (several)	• Literature review • Meta-analysis	• Reasons for failing of service recovery: tensions among customer recovery, process recovery and employee recovery • Requirements for effective recovery is the integration and implementation of the following fundamentals: - service logic - value / strategy-driven approaches - seamless information flows - recovery-relevant metrics - T-shaped service providers
Smith, Karwan and Markland (2009)	• Analysis of structural dimensions of recovery systems	• Qualitative interviews • Written survey among service firms in the USA (n=158) • Services (several)	• Q-sorting technique • Exploratory factor analysis • Confirmatory factor analysis	• The structural dimensions of recovery systems comprise - formality - decentralization - comprehensiveness - human intensity - system intensity - accessibility

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- influence
Gonzalez et al. (2010)	• Analysis of effects on recovery measures on customer outcomes	• Online survey among sales managers in the USA (n=177) • Products and services (several)	• Exploratory factor analysis • Confirmatory factor analysis • Analysis of variance • Structural equation modeling	• Recovery culture has a positive effect on - failure analysis - recovery strategy - monitoring, evaluation, feedback - customer performance • Failure analysis has a positive effect on - recovery strategy • Recovery strategy has a positive effect on - monitoring, evaluation, feedback • Monitoring, evaluation, feedback has a positive effect on - customer performance • Customer performance has a positive impact on - financial performance
Lin (2010)	• Analysis of factors affecting recovery performance	• Written survey among service employees in Taiwan (n=115) • Services (travel agencies)	• Fuzzy neural networks • Principal component factor analysis • Multivariate data analysis	• Service recovery performance is negatively influenced by - high leadership authority - strong corporate culture • Service recovery performance is positively influenced by - high self-efficacy
Smith and Karwan (2010)	• Analysis of structural profiles of recovery systems	• Written survey among customers in the USA (n=158) • Services (several)	• Q-sorting technique • Exploratory factor analysis • Confirmatory factor	• Identification of three distinct recovery system profiles: - *recoverers*: organizations with average recovery systems that rank highest on all system dimensions - *followers*: organizations with identical rank orders of recovery dimen-

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
			analysis • Cluster analysis • Analysis of variance	sions, but lower group means than recoverers - *laggards*: organizations reflecting low group means of recovery dimensions and little resource emphasis
Smith, Fox and Ramirez (2010)	• Analysis of the socio-technical dimensions of recovery systems	• Written survey among service employees (n=221) and customers (n=69) in the USA • Services (several)	• Confirmatory factor analysis • Structural equation modeling	• Recovery climate is positively influenced by - recovery system • Recovery efficacy is positively influenced by - recovery climate • Recovery avoidance is negatively influenced by - recovery climate - interaction of recovery system and recovery efficacy • Recovery performance is positively influenced by - recovery efficacy • Recovery performance is negatively influenced by - recovery avoidance
Robinson, Neeley and Williamson (2011)	• Analysis of role of service employees for implementation of recovery	• Online survey among service employees in the USA (n=352) • Services (several)	• Confirmatory factor analysis • Structural equation modeling	• Employee empowerment has a positive impact on - employee job satisfaction - employee self-efficacy • Employee self-efficacy has a positive impact on - employee job satisfaction - employee adaptability • Employee job satisfaction has a positive impact on - use of service technology in service recovery • Employee adaptability has a positive impact on - use of service technology in service recovery

Appendix 2: Empirical studies on customer-related research on recovery

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Kelley, Hoffman and Davis (1993)	• Analysis of effects of recovery in retailing context	• Written survey among consumer in the USA (n=661) • Products and services (retailing)	• Critical incident technique • Group comparison	• Classification of failures: - *cluster 1*: employee response to service delivery system / product failures - *cluster 2*: employee response to customer needs and requests - *cluster 3*: unprompted and unsolicited employee actions
Kelley and Davis (1994)	• Analysis of antecedents to customer expectations of recovery	• Written survey among consumers in the USA (n=296) • Services (health clubs)	• Confirmatory factor analysis • Multivariate analysis of covariance	• Customer service recovery expectations are directly influenced by - perceived service quality - customer organizational commitment • Customer service recovery expectations are indirectly influenced by - customer satisfaction
Hoffman, Kelley and Rotalsky (1995)	• Analysis of effects of recovery on recovery satisfaction	• Personal survey among consumers in the USA (n=373) • Services (restaurants)	• Critical incident technique • Correlation analysis	• Compensation has a positive effect on - recovery satisfaction • Severity of failure has a negative effect on - recovery satisfaction
Brown, Cowles and Tuten (1996)	• Analysis of effects of recovery on relation-ships	• Written survey among students in the USA (n=424) • Scenario-based experimental research design (2x2) • Services (retailing)	• Analysis of variance • T-test	• Consistency of prior service has a positive effect on - overall satisfaction - perceived overall quality - perceived overall image - future expectations • Encounter satisfaction has a positive effect on - overall satisfaction - perceived overall quality

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Hocutt, Charkraborty and Mowen (1997)	• Analysis of effects of justice on customer satisfaction and com-plaint intentions	• Written survey among students in the USA (n=251) • Scenario-based experimental research design (2x2x2) • Services (restaurants)	• Multivariate analysis of variance	• Customer satisfaction is positively influenced by - service failure - distributive justice - interactional justice - locus of causality • Complaint intentions are negatively influenced by - service failure - distributive justice - interactional justice • Complaint intentions are positively influenced by - locus of causality
Smith and Bolton (1998)	• Analysis of effects of recovery on customer satisfaction and repurchase intentions	• Written survey among students and business customers in the USA (study 1: n=344, study 2: n=520) • Quasi-experimental research design • Services (hotels)	• Multiple regression analysis • Ordinary least squares	• Recovery satisfaction has a positive, direct effect on - overall customer satisfaction • Recovery satisfaction has a positive, indirect effect on - repurchase intentions • Overall customer satisfaction has a positive, direct effect on - repurchase intentions
Webster and Sundaram (1998)	• Analysis of criticality of consumption on customer evaluations of recovery	• Written survey among consumers in the USA (n=477) • Scenario-based experimental research design (4x2x3)	• Principle component factor analysis • Analysis of covariance • Multivariate analysis of covariance	• Recovery has a positive, direct effect on - customer (recovery) satisfaction - customer loyalty • Service criticality has a negative, direct effect on - customer (recovery) satisfaction - customer loyalty

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (restaurants, auto repair, dry cleaning)		• Positive interaction effect of recovery and service criticality on - customer (recovery) satisfaction - customer loyalty
Boshoff (1999)	• Analysis of recovery expectations and recovery satisfaction	• Written survey among consumers in New Zealand (study 1: n=416, study 2: n=352) • Services (several)	• Qualitative data analysis • Exploratory factor analysis • Confirmatory factor analysis	• Development of RECOVSAT scale based on six dimensions: - communication - empowerment - feedback - apology - explanation - tangibles
Smith, Bolton and Wagner (1999)	• Analysis of effects of recovery on customer satisfaction	• Written survey among consumers in the USA (study 1: n=375, study 2: n=602) • Scenario-based experimental research design (2x2x3x2x2x2) • Services (study 1: restaurants, study 2: hotels)	• F-test • Mean comparison test	• Procedural justice is positively influenced by - speed of recovery - interaction of speed and type of failure - interaction of speed and magnitude of failure • Distributive justice is positively influenced by - compensation - interaction of compensation and type of failure - interaction of compensation and magnitude of failure • Interactional justice is positively influenced by - apology - initiation - interaction of apology and type of failure - interaction of initiation and type of failure • Customer satisfaction is positively influenced by

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- justice perceptions (procedural, distributive, interactional) - disconfirmation
Andreassen (2000)	• Analysis of antecedents of recovery satisfaction	• Written survey among consumers in Norway (n=201) • Services (several)	• Structural equation modeling • Maximum Likelihood • Generalized Least Squares	• Disconfirmation is positively influenced by - expectations of service recovery - perceived quality of service recovery • Equity is positively influenced by - perceived quality of service recovery • Satisfaction with service recovery is positively influenced by - expectations of service recovery - perceived quality of service recovery - equity - disconfirmation
DeRuyter and Wetzels (2000)	• Analysis of effects of recovery on customer loyalty	• Written survey among consumers in the Neth-erlands (n=800) • Experimental research design (2x2x2x4) • Services (hairdressers, restaurants, banks, department stores)	• Multivariate analysis of variance • Box's M test	• Service quality is positively influenced by - voice (procedural justice) - outcome (distributive justice) • Customer satisfaction is positively influenced by - voice (procedural justice) - outcome (distributive justice) • Customer loyalty is positively influenced by - voice (procedural justice) - outcome (distributive justice) - apology (interactional justice)
Durvasula, Lysonski and Metha (2000)	• Analysis of effects of recovery on customer satisfaction and	• Written survey among customer firms in Sin-gapore (n=221)	• Critical incident technique • T-tests	• Customer satisfaction is positively influenced by - service recovery - closeness of customer contact

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
	preferences	• Services (ocean freight shipping)		• Customer satisfaction is negatively influenced by - number of problems
McCollough, Berry and Yadav (2000)	• Analysis of customer satisfaction after recovery	• Written survey among consumers in the USA (n=615) • Scenario-based experimental research design (2x3, 3x3) • Services (airlines)	• Analysis of variance • Analysis of covariance • Structural equation modeling	• Initial disconfirmation is positively influenced by - failure expectations - service performance • Recovery disconfirmation is negatively influenced by - recovery expectations • Recovery disconfirmation is positively influenced by - recovery performance • Satisfaction is positively influenced by - initial disconfirmation - recovery disconfirmation - distributive justice - interactional justice - interaction of distributive justice and interactional justice
Miller, Craighead and Karwan (2000)	• Analysis of recovery process (operational perspective)	• Written survey among students in the USA (n=448) • Services (several)	• Critical incident technique • Discriminant analysis	• Successful recovery has a positive impact on - customer satisfaction - customer retention - customer loyalty - perceived service quality - service guarantees • Successful recovery is negatively influenced by - severity of failure - length of recovery phase

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Andreassen (2001)	• Analysis of effects of recovery satisfaction on customer intentions	• Written survey among consumers in Norway (n=201) • Services (several)	• Analysis of variance • T-tests	• Customer perceptions of corporate image and future intent are significantly higher for complaining than for dissatisfied non-complaining customers • Customer future intentions, perceptions of and attitudes towards the supplier firm are significantly higher for ordinarily satisfied customers than for dissatisfied complaining customers • Customer future intentions, perceptions of and attitudes towards the supplier firm are significantly lower for complaining customers than for satisfied, non-complaining customers
Mattila (2001a)	• Analysis of recovery in a multi-industry setting	• Written survey among students in the USA (n=441) • Scenario-based experimental research design (3x2x2) • Services (restaurants, hairdressers, dry-cleaning)	• Analysis of covariance • Multiple regression analysis	• Procedural justice is influenced by - interaction of compensation and service type • Distributive justice is influenced by - magnitude of failure - service type - compensation • Interactional justice is influenced by - interaction of compensation and service type • Service recovery satisfaction is influenced by - interaction of compensation and service type • Loyalty is influenced by - interaction of compensation and service type
Mattila (2001b)	• Analysis of effects of relationship type on customer intentions	• Written survey among students in the USA (study 1: n=142, study 2: n=126)	• Analysis of variance • Analysis of covariance	• Satisfaction with problem handling is influenced by - service recovery outcome (compensation) • Customer loyalty is influenced by - relationship type

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Scenario-based experimental research design (3x2) • Services (restaurants)		- service recovery outcome (compensation) - interaction of relationship type and service recovery outcome • Willingness to pay higher prices is influenced by - relationship type - service recovery outcome (compensation)
Maxham (2001)	• Analysis of effects of recovery on customer satisfaction, word-of-mouth and repurchase intentions	• Written survey among consumers and students in the USA (study 1: n=406, study 2: n=114) • Scenario-based experimental research design (study 1) and field study among complainants (study 2) • Services (study 1: hairdressers, study 2: internet service)	• Multivariate analysis of variance • T-tests	• Poor recovery efforts result in - customer satisfaction below post-failure levels - word-of-mouth intentions below post-failure levels - repurchase intentions below post-failure levels • Moderate recovery efforts result in - customer satisfaction above post-failure levels - word-of-mouth intentions above post-failure levels - repurchase intentions above post-failure levels • High recovery efforts result in - customer satisfaction above post-failure levels - word-of-mouth intention above post-failure levels - repurchase intention above post-failure levels • High recovery efforts result in - customer satisfaction below pre-failure levels - word-of-mouth intention below pre-failure levels - repurchase intention below pre-failure levels
Sparks and McColl-Kennedy	• Analysis of effects of justice on customer satisfaction and	• Written survey among consumers in Australia (n=420)	• Multivariate analysis of variance • T-tests	• Satisfaction is positively influenced by - concern - interaction of neutrality and outcome

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
(2001)	future intentions	• Scenario-based experimental research design (2x2x2x2) • Services (hotels)		- interaction of concern, voice and neutrality • Future intentions are positively influenced by - outcome - concern - interaction of voice and neutrality
Swanson and Kelley (2001)	• Analysis of effects of recovery on customer satisfaction, word-of-mouth and repurchase intentions	• Written survey among consumers in the USA (n=183) • Experimental research design (2x3) • Services (airline, cable television, credit card)	• Critical incident technique • Factor analysis • Multivariate analysis of variance	• Recovery quality perceptions are positively influenced by - locus of recovery • Recovery quality perceptions are negatively influenced by - time of recovery - complexity of recovery • Customer satisfaction perceptions are positively influenced by - locus of recovery • Customer satisfaction perceptions are negatively influenced by - time of recovery - complexity of recovery • Word-of-mouth intentions are positively influenced by - stability of recovery - locus of recovery • Word-of-mouth intentions are negatively influenced by - time of recovery - complexity of recovery • Repurchase intentions are positively influenced by - stability of recovery • Repurchase intentions are negatively influenced by - time of recovery

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- complexity of recovery
Maxham and Netemeyer (2002a)	• Analysis of effects of recovery on customer satisfaction, repur-chase and word-of-mouth intentions under multiple failures	• Written survey among consumers in the USA (n=255) • Longitudinal research design (t1, t2, t3, t4) • Services (banking)	• Multivariate analysis of covariance	• One failure scenario: - confirmation of service recovery paradox after one failure - no confirmation of double deviation effect after one failure • Two failure scenario: - no confirmation of service recovery paradox after two failures - confirmation of double deviation effect after two failures • Sequences of recovery: - higher customer evaluations for unsatisfactory / satisfactory recovery sequence than satisfactory / unsatisfactory recovery • Recovery expectations: - increase of recovery expectations from first to second failure - increase of recovery expectations is greater for customers experiencing a satisfactory recovery after the first failure • Severity of failure: - increase of failure severity perceptions from first to second failure - increase of failure severity perceptions is greater for customers experiencing a satisfactory recovery after the first failure • Attribution of blame: - increase of attributions of blame from first to second failure - increase of attributions of blame is greater for customers experiencing an unsatisfactory recovery after the first failure

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Maxham and Netemeyer (2002b)	• Analysis of effects of justice perceptions on satisfaction and repurchase intentions	• Written survey among consumers in the USA (study 1: n=692, study 2: n=339) • Services (banking, home building)	• Confirmatory factor analysis • Structural equation modeling	• Satisfaction is positively influenced by - distributive justice (study 1 & 2) - interactional justice (study 1) • Overall firm satisfaction is positively influenced by - justice perceptions (study 1 & 2) - satisfaction with recovery (study 1 & 2) • Word-of-mouth intent is positively influenced by - satisfaction with recovery (study 2) - overall firm satisfaction (study 2) • Repurchase intent is positively influenced by - overall firm satisfaction (study 1 & 2)
Smith and Bolton (2002)	• Analysis of effects of emotions on customer evaluations	• Written survey among consumers in the USA (study 1: n=344, study 2: n=549) • Scenario-based experimental research design (2x2x3x2x2x2) • Services (study 1: restaurants, study 2: hotels)	• Verbal protocol technique • Content analysis • Moderated regression analysis • F-tests • Chow test	• Service encounter satisfaction is positively influenced by - emotions (study 1 & 2 combined) • Relationship between cognitive antecedents and service encounter satisfaction is positively influenced by - emotions (study 1 & 2 combined: quasi-moderator) - emotions (study 2: pure moderator) • Customers responding more emotionally to failure situations were found to process information more analytically • Emotions have a stronger effect on service encounter satisfaction than on cumulative satisfaction
DeWitt and Brady (2003)	• Analysis of effects of rapport on customer evaluations	• Written surveys among consumers in the USA (study 1: n=291, study 2: n=148, study 3: n=40,	• Exploratory factor analysis • Confirmatory factor analysis	• Rapport has a positive effect on - customer satisfaction (study 1 & 2) - repurchase intentions (study 1 & 2) • Rapport has a negative effect on

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		study 4: n=126) • Scenario-based experimental research design (studies 1, 2, 4) • Qualitative research design (study 3) • Services (restaurants, lube oil change, hair dressers)	• Analysis of variance • Multivariate analysis of variance	- negative word-of-mouth (study 1 & 2) - complaint intentions (study 2)
Hess, Ganesan and Klein (2003)	• Analysis of effects of relationships on customer evaluations	• Written survey among students in the USA (n=346) • Experimental research design (2x2x2x3) • Services (restaurants)	• Exploratory factor analysis • Confirmatory factor analysis • Hierarchical regression analysis	• Service recovery expectations are positively influenced by - severity of failure - controllability attributions • Service recovery expectations are negatively influenced by - expectations of relationship continuity • Satisfaction with service performance is negatively influenced by - service recovery expectations • Satisfaction with service performance is positively influenced by - quality of recovery performance - attributions of stability
Holloway and Beatty (2003)	• Analysis of effectiveness of recovery on customer responses	• Qualitative interviews (n=30) • Written survey among consumers in the USA (n=295)	• Critical incident technique • Content analysis	• *Types of service failures*: delivery problems, product quality problems, website design problems, customer service problems, payment problems, security problems, miscellaneous problems • *Reasons for customer complaints*: resolve problem / receive restitution, express feelings / anger, raise awareness for the problem, initiate

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (online retailing)		improvements for other shoppers, expose fraud, understand reason of failure • *Reasons for dissatisfaction with recovery*: deserving more for the failure experienced, reflecting insufficient customer service, received no response from the firm, reporting insufficient interaction during recovery, received no apology from the firm, experienced highly severe failure that cannot be compensated • *Reasons for post-failure behavior:* no future purchase at the seller firm, more careful shopping behavior in future, more selective behavior in choosing seller firm, reduce share of online shopping in future, consider additional time for delays, read information on website more carefully, never shop online in future
McColl-Kennedy, Daus and Sparks (2003)	• Analysis of effects of gender on customer evaluations of recovery	• Written survey among consumers in Australia (n=712) • Scenario-based experimental research design (2x2x2) • Services (hotels)	• Multivariate analysis of variance • Chi-square analysis • T-tests	• Satisfaction is positively influenced by - concern - voice - compensation - interaction of customer gender and voice • Future intentions are positively influenced by - concern - voice - compensation - gender - interaction of service provider gender and customer gender - interaction of customer gender and voice - interaction of outcome, service provider and customer gender

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				• Employee efforts are positively influenced by - concern - voice - compensation - interaction of outcome, service provider and customer gender
Priluck (2003)	• Analysis of the mitigating effects of relationships in recovery	• Written survey among consumers in the USA (n=185) • Experimental research design (2x2) • Products and services (video rentals)	• Analysis of variance • T-tests • F-tests	• Commitment is positively influenced by - exchange condition - interaction of exchange condition and product performance • Trust is positively influenced by - exchange condition • Satisfaction is positively influenced by - exchange condition - product performance - interaction of exchange condition and product performance • Moderating effect of product performance on relationship - between exchange condition and satisfaction • Interaction effect between exchange condition and recovery performance on satisfaction • Interaction effect between exchange condition and recovery condition on exit
Weun, Beatty and Jones (2004)	• Analysis of severity of failure on recovery consequences	• Written survey among consumers in the USA (n=1070) • Scenario-based	• Confirmatory factor analysis • Multivariate analysis of variance	• Satisfaction with service recovery is positively influenced by - interactional justice - distributive justice • Satisfaction with service recovery has a positive effect on

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		experimental research design (2x2x2) • Services (hotels, mail-order)		- trust - commitment - negative word-of-mouth • Severity of failure has a negative effect on - satisfaction with service recovery - trust - commitment - relationship between satisfaction with recovery and commitment - relationship between distributive justice / satisfaction with recovery • Severity of failure has a positive effect on - negative word-of-mouth
Wirtz and Mattila (2004)	• Analysis of effects of justice perceptions on customer attributions and behavioral intentions	• Written survey among consumers in Singapore (n= 187) • Scenario-based experimental research design (2x2x2) • Services (restaurants)	• Analysis of variance • Analysis of covariance	• Satisfaction with service recovery is positively influenced by - compensation - speed - apology - interaction of compensation and apology - interaction of speed and apology - interaction of compensation, apology and controllability attributions - interaction of speed, apology and controllability attributions - interaction of compensation, apology and stability attributions - interaction of speed, apology and stability attributions • Repurchase intentions are positively influenced by - speed - apology - satisfaction

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				• Negative word-of-mouth intentions are negatively influenced by - speed - apology - compensation - satisfaction • Controllability attributions are positively influenced by - speed - compensation • Stability attributions are negatively influenced by - speed
Wong (2004)	• Analysis of effects of culture on customer perceptions	• Written survey among students in the USA (n=253), Australia (n=192) and Singapore (n=71) • Scenario-based experimental research design (3x2) • Services (restaurants)	• Confirmatory factor analysis • Chi-square difference test	• Compensation has a positive impact on - satisfaction - positive word-of-mouth - repurchase intentions for American consumers • Apology has a positive impact on - satisfaction for American, Australian and Singaporean consumers and - positive word-of-mouth - repurchase intentions for Australian consumers
Boshoff (2005)	• Analysis of multi-dimensional nature of recovery satisfaction	• Telephone interviews among consumers in the USA (n=702)	• Exploratory factor analysis • Confirmatory factor	• Re-confirmation of RECOVSAT instrument based on six dimensions: communication, empowerment, feedback, atonement, explanation, tangibles

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (banking)	analysis • Structural equation modeling	• Cumulative satisfaction is positively influenced by - communication - feedback - atonement - explanation • Customer loyalty is positively influenced by - cumulative satisfaction
Cranage and Mattila (2005)	• Analysis of effects of informed choice on customer evaluations	• Written survey among students in the USA (n=280) • Scenario-based experimental research design (2x2x2) • Services (restaurants)	• Analysis of variance	• Informed choice has a positive impact on - satisfaction - loyalty - self-attributions • Apology has a positive impact on - satisfaction - loyalty - fairness • Compensation has a positive impact on - satisfaction - loyalty - fairness • Interaction effect of informed choice and apology on - satisfaction - loyalty - openness - commitment • Interaction effect of informed choice and compensation on

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- satisfaction - loyalty - commitment • Interaction effect of informed choice, apology and compensation on - satisfaction - loyalty - commitment - openness
Harris et al. (2006)	• Analysis of customer reactions on recovery strategies in online / offline context	• Written survey among consumers in the USA (n=162) • Scenario-based experimental research design (2x2x2) • Services (airlines, banking)	• Multivariate analysis of variance • T- test	• Customer satisfaction is positively influenced by - level of remedy - type of service - interaction of level of remedy and online / offline medium - interaction of type of service and level of recovery • Future intentions are positively influenced by - level of recovery - interaction of level of recovery and online / offline medium - interaction of type of service and level of recovery
Hocutt, Bowers and Donavan (2006)	• Analysis of effects of justice on customer satisfaction and word-of-mouth intentions	• Written survey among students in the USA (n=221) • Scenario-based experimental research design (2x2x2) • Services (restaurants)	• Multivariate analysis of variance	• Satisfaction is positively influenced by - redress - empathy - responsiveness - interaction of empathy and responsiveness • Negative word-of-mouth intentions are negatively influenced by - redress - empathy

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- responsiveness • Negative word-of-mouth intentions are positively influenced by - interaction of redress and empathy - interaction of empathy and responsiveness
Kau and Loh (2006)	• Analysis of effects of recovery on customer satisfaction	• Online survey among consumers in Singapore (n=428) • Services (mobile phone providers)	• Factor analysis • Bartlett test • Multiple regression analysis	• Satisfaction with recovery is positively influenced by - empathy / politeness - explanation / effort - procedural justice - distributive justice • Satisfaction with recovery has a positive effect on - trust - word-of-mouth - customer loyalty
Lin (2006)	• Analysis of effects of management involvement on customer outcomes	• Written survey among consumers in Taiwan (n=104) • Services (several)	• Non-linear fuzzy neural models • Principle component factor analysis	• External control-oriented personality traits have a positive effect on - relationship of management involvement / service failure situations - relationship of management involvement / service recovery strategies • Internal control-oriented personality traits have a negative effect on - relationship of management involvement / service failure situations - relationship of management involvement / service recovery strategies • Level of management involvement has a positive effect on - strength of customer relationship • Strength of customer relationship has a positive effect on - service recovery strategies

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Shapiro and Nieman-Gonder (2006)	• Analysis of effects of recovery strategies and mode of communication on key outcome variables	• Written survey among students in the USA (n=407) • Scenario-based experimental research design (3x3) • Services (cellular phones)	• Analysis of variance • T-tests	• Justice-based service recovery has a positive effect on - negative word-of-mouth intentions • Communication mode has a positive effect on - satisfaction with communication • Negative word-of-mouth intentions have a negative effect on - customer satisfaction - loyalty intentions • Customer satisfaction has a positive effect on - loyalty intentions
Karande, Magnini and Tam (2007)	• Analysis of effects of recovery voice on customer satisfaction	• Written surveys among consumers in the USA (study 1: n=216, study 2: n=208) • Scenario-based experimental research design (2x2x2) • Services (study 1: hotels, study 2: airline)	• Analysis of variance • Mediation analysis • Sobel test	• Procedural justice is positively influenced by - recovery voice - interaction of recovery voice and past transaction history • Overall post-failure satisfaction is positively influenced by - procedural justice - recovery voice (mediated by procedural justice) - interaction of procedural justice and past transaction history
Magnini et al. (2007)	• Analysis of effects of moderating variables on recovery paradox	• Written survey among students in the USA (n=291) • Scenario-based experimental research design	• Chi-square difference test • McNemar test	• Subsequent to an effective recovery, post-failure satisfaction levels were larger than pre-failure satisfaction levels (recovery paradox) • Recovery paradox is more likely to occur under - low failure severity than high failure severity - first failure situations than second failure situations - low stability attributions than high stability attributions

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (hotels)		- low locus attributions than high locus attributions
Ringberg, Odekerken-Schröder and Christensen (2007)	• Analysis of effects of cultural models on recovery expectations and preferences	• Qualitative interviews with consumers in the USA (n=24) • Products and services (several)	• Zaltman Metaphor Elicitation Technique (ZMET) • Grounded theory methodology (i.e. open, axial, selective coding)	• Identification of three types of cultural models: - *Relational cultural model*: customers strive to sustain emotional bonds with seller firm and collaborate to restore the relationship after failures - *Oppositional cultural model*: customers take a distrustful and confrontational perspective against seller firm after failure situations - *Utilitarian cultural model*: customers take a rational position in comparing future relational benefits against costs after failure situations
Worsfold, Worsfold and Bradley (2007)	• Analysis of effects of proactive / reactive recovery strategies on customer evaluations	• Written survey among consumers in Australia (study 1 & 2: n=179) • Experimental research design (2x2x2) • Services (study 1: DVD rental, study 2: restaurants	• Multivariate analysis of variance	• Customer satisfaction is positively influenced by - rapport (study 1 & 2) - compensation (study 1 & 2) - failure type (study 1) - failure severity (study 2) - interaction of rapport and compensation (study 1) - interaction of rapport and failure type (study 1) • Repatronage intentions are positively influenced by - rapport (study 1 & 2) - compensation (study 1 & 2) - failure type (study 1) - failure severity (study 2) - interaction of rapport and compensation (study 1) - interaction of rapport and failure type (study 1)

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- interaction of rapport and failure severity (study 2) - interaction of rapport, compensation and failure severity (study 2) • Complaint intentions are negatively influenced by - rapport (study 1) - compensation (study 1) - failure type (study 1) - failure severity (study 2) - interaction of rapport, compensation and failure severity (study 2)
Baker, Meyer and Johnson (2008)	• Analysis of effects of contextual cues on recovery	• Online panel survey among consumers in the USA (n=1314) • Scenario-based experimental research design (2x3) • Services (restaurants)	• Factor analysis • Analysis of variance • Multivariate analysis of variance	• Severity of failure is influenced by - race - condition • Significant differences between white and black participants for - anger - satisfaction - repurchase intentions - positive word-of-mouth - level of recovery required
Bonifield and Cole (2008)	• Analysis of effects of social comparisons on the effectiveness of service recovery	• Written survey among students in the USA (study 1: n=100, study 2: n=207) • Scenario-based experimental research design (study 1: 2x2, study 2: 2x4)	• Confirmatory factor analysis • Analysis of variance • Multivariate analysis of variance • Mediation analysis • Chi-square difference test	• Anger is negatively influenced by - social comparison - compensation • Post-purchase behavioral intentions are positively influenced by - social comparison - compensation • Two-way interaction effect of social comparison and compensation on

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		• Services (restaurants)		- anger - post-purchase behavioral intentions • Mediation effect of social comparison via anger on post-purchase behavioral intentions (no compensation condition)
Chang and Hsiao (2008)	• Analysis of effects of recovery on customer value	• Qualitative interviews • Personal survey among consumers in Taiwan (n=424) • Services (hotels, restaurants)	• Structural equation modeling	• Service recovery has a positive effect on - perceived justice • Service recovery has a negative effect on - perceived risk • Perceived justice has a negative effect on - perceived risk • Perceived risk has a negative effect on - customer value
DeWitt, Nguyen and Marshall (2008)	• Analysis of effects of recovery on customer loyalty	• Written survey among consumers in the USA (n=459) • Scenario-based experimental research design (2x3) • Services (restaurants, hotels)	• Confirmatory factor analysis • Analysis of variance • F-test • Structural equation modeling	• Customer trust is positively influenced by - perceived justice • Attitudinal loyalty is positively influenced by - positive emotion - customer loyalty • Attitudinal loyalty is negatively influenced by - negative emotion • Behavioral loyalty is positively influenced by - positive emotion - customer loyalty - attitudinal loyalty • Behavioral loyalty is negatively influenced by

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- negative emotion • Customer loyalty is positively influenced by - justice (mediated by trust → full mediation) - justice (mediated by emotion → partial mediation)
Dong, Evans and Zou (2008)	• Analysis of customer participation in recovery	• Written survey among consumers in the USA (n=223) • Scenario-based experimental research design (3x2) • Services (online course registration / internet set-up)	• Confirmatory factor analysis • Box M test	• Customer participation in service recovery has a positive effect on - customer role clarity - perceived value - satisfaction with service recovery • Attribution of service failure has a negative effect on - role clarity - perceived value - satisfaction with service recovery • Customer ability in future co-creation is positively influenced by - role clarity • Customer intention toward future co-creation is positively influenced by - customer participation in service recovery - customer ability in future co-creation - role clarity - perceived value in future co-creation - satisfaction with service recovery
Grewal, Roggeveen and Tsiros	• Analysis of effect of compensation on repurchase intentions	• Written survey among consumers / students in the USA (study 1:	• Confirmatory factor analysis • Analysis of variance	• Equity perceptions are positively influenced by - interaction of stability attributions and compensation • Repurchase intentions are positively influenced by

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
(2008)		n=251, study 2: n=116, study 3: n=218) • Scenario-based experimental research design (study 1: 2x2x2, study 2: 2x2, study 3: 2x2) • Services (study 1 & 2: airlines, study 3: restaurants)	• Sobel test	- interaction of stability attributions and compensation - interaction of stability, locus attributions and compensation - interaction of stability and compensation
Holloway, Wang and Beatty (2009)	• Analysis of effects of relationship quality on customer evaluations	• Online survey among consumers in the USA (n=264) • Scenario-based experimental research design • Services (retailing)	• Multivariate analysis of covariance • Structural equation modeling	• Relationship quality has a positive effect on - loss of relationship quality (after failed recovery) - loss of repurchase intentions (after failed recovery) • Moderating effect of relationship quality on the relationship strength - between post-recovery satisfaction and repurchase intentions - between post-recovery satisfaction and propensity to increase shopping activity
Priluck and Lala (2009)	• Analysis of effects of recovery on satisfaction	• Written survey among consumers / students in the USA (study 1: n=63, study 2: n=61) • Scenario-based experimental design • Services (DVD rental)	• Mean comparison test • Analysis of variance • T-test • F-test • Post-hoc test	• Recovery strength has a positive impact on - relationship satisfaction - internal voice behaviors - store satisfaction (only for low levels – step function) - relationship satisfaction (only for low levels – step function) - likelihood of customer complaints to the firm (internal voice)

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Morrisson and Huppertz (2010)	• Analysis of effects of loyalty program membership on customer reactions	• Qualitative interviews (n=6) • Written survey among students in France (n=808) • Scenario-based experimental research design (2x2) • Services (mobile phone providers)	• Analysis of variance	• Satisfaction with recovery is positively influenced by - external equity - interaction of external equity and loyalty program membership
Sajtos, Brodie and Whittome (2010)	• Analysis of effects of relationships on customer consequences of recovery	• Online survey among consumers in New Zealand (n=552) • Experience-based survey design • Services (airlines)	• Confirmatory factor analysis • Structural equation modeling	• Company image is negatively influenced by - service failure - severity of service failure • Company image is positively influenced by - recovery satisfaction • Company trust is negatively influenced by - service failure - severity of service failure - intervention • Company trust is positively influenced by - company image - recovery satisfaction • Customer value is positively influenced by - company image - customer trust

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				• Customer loyalty is positively influenced by - company image - customer value
Vázquez-Casielles, Suárez Álvarez and Díaz Martín (2010)	• Analysis of effects of recovery on customer evaluations and consequences	• Personal survey among consumers in Spain (n=184) • Services (mobile phone providers)	• Confirmatory factor analysis • Non-linear regression analysis • Structural equation modeling	• Satisfaction with service recovery is positively influenced by - distributive justice - procedural justice - interactive justice • Satisfaction with service recovery has a positive impact on - credibility - benevolence - affective commitment • Credibility has a positive impact on - benevolence - overall satisfaction • Benevolence has a positive impact on - affective commitment - overall satisfaction • Affective commitment has a positive impact on - overall satisfaction • Negative interaction effect of perceived value of prior experiences and dissatisfaction with recovery on - credibility - benevolence - affective commitment

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Wirtz and McColl-Kennedy (2010)	• Analysis of effects of opportunistic behavior in recovery	• In-depth interviews with consumers (n=17) • Written survey among consumers in the USA (n=360, n=261, n=82) • Scenario-based experimental research design (3x2x2, 2x2) • Services (several)	• Content analysis • Logistic regression analysis • Analysis of variance • Multivariate analysis of variance • Analysis of covariance • T-tests	• Customer claiming behavior is positively influenced by - fair compensation - compensation policy - firm size - relationship with firm - justice perceptions (procedural, distributive, interactional) • Customer satisfaction is positively influenced by - fair compensation - compensation policy - firm size - justice perceptions (procedural, distributive, interactional) • Opportunistic claiming is negatively influenced by - justice perceptions (procedural, distributive, interactional)
Huang (2011)	• Analysis of effects of brand equity on service recovery	• Written survey among consumers in Taiwan (n=220) • Services (several)	• Confirmatory factor analysis • Chi-square difference test • Structural equation modeling	• Brand equity has a positive effect on the relationship between - distributive justice and satisfaction with service recovery - satisfaction with service recovery and repurchase intentions - satisfaction with service recovery and word-of-mouth behavior
Lin, Wang and Chang (2011)	• Analysis of effects of service recovery on customer outcome variables	• Written survey among students in Taiwan (n=394) • Scenario-based experimental research design (2x2x2) • Services (online retail-	• Confirmatory factor analysis • Multivariate analysis of variance • Bartlett test • Box's M test • T-tests	• Customer satisfaction is positively influenced by - distributive justice - procedural justice - interactional justice - interaction of distributive and procedural justice - interaction of distributive and interactional justice - interaction of distributive, procedural and interactional justice

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		ing)		• Repurchase intentions are positively influenced by - distributive justice - interaction of distributive and procedural justice - interaction of distributive and interactional justice - interaction of distributive, procedural and interactional justice • Negative word-of-mouth is negatively influenced by - interactional justice - interaction of distributive and procedural justice - interaction of distributive and interactional justice - interaction of distributive, procedural and interactional justice
Svari et al. (2011)	• Analysis of effects of negative emotions on service recovery	• Qualitative interviews (n=269) • Written survey among consumers in Norway (n=3104) • Services (tourism industry)	• Exploratory factor analysis • Confirmatory factor analysis • Critical incident technique • T-tests • Bartlett test	• Identification of three fundamental dimensions of negative emotions: - *self (feelings caused by failures of the customer)*: shame, guilt, regret, embarrassment, sadness, loneliness, unhappiness, depression - *others (feelings caused by failures of the seller firm)*: anger, irritation, rage, discouragement, frustration, disempowerment, distress - *situational (feelings caused by situations which cannot be related to the customer or seller firm)*: fear, worry, anxiety, nervousness
Wang, Liang and Peracchio (2011)	• Analysis of effects of counter-factual thinking on customer evaluations	• Written survey among students in the USA (study 1: n=113, study 2: n=85) • Scenario-based experimental research design (2x2x2) • Products (computers)	• Analysis of variance	• Product evaluations are positively influenced by - three-way interaction of purchase outcome, need for cognition and thinking instructions - two-way interaction of thinking instruction and need for cognition - two-way interaction of motivation and counterfactual thinking • Downward counterfactuals are positively influenced by - three-way interaction of purchase outcome, thinking instruction and need for cognition

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
Boshoff (2012)	• Analysis of emotional responses on recovery	• Video-based observations and written survey among consumers in South Africa (n=64) • Scenario-based experimental research design • Services (travel agencies)	• Neurophysiological measurement based on electroencephalography, galvanic skin response and facial muscle activity electromyography • Analysis of variance • Paired sample t-tests	• Customers are more likely to experience negative emotions when - the seller has the same gender - the seller has the same ethnicity • Customers experience the highest negative emotions when - the seller has the same gender and ethnicity
Bradley and Sparks (2012)	• Analysis of effects of explanations on customer evaluations	• Written survey among consumers in Australia (n=461) • Scenario-based experimental research design (4x2x2x2) • Services (restaurants)	• Confirmatory factor analysis • Analysis of variance • Multivariate analysis of variance • T-tests • Tukey test • Sobel test	• Apology has a positive effect on - satisfaction (under high quality explanation condition) • Compensation has a positive effect on - satisfaction - attitudes • Magnitude of failure has a positive effect on - satisfaction - attitudes • Interaction effect of explanation type and explanation quality on - satisfaction • Mediating effect of apology through interactional justice on - satisfaction - attitudes • Mediating effect of justification through informational justice on

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- satisfaction - attitudes • Mediating effect of referential accounts through distributive justice on - satisfaction • Mediating effect of excuses through procedural justice on - attitudes
Kim and Ulgado (2012)	• Analysis of effects of compensation on customer evaluations	• Written survey among students in the USA (n=292) • Scenario-based experimental research design (2x2) • Services (restaurants, hotels)	• Analysis of variance • Moderated regression analysis	• Satisfaction has a positive effect on - repurchase intentions • Severity of failure has a positive effect on - repurchase intentions • Interaction effect of satisfaction and severity of failure on - repurchase intentions • Moderating effect of severity of failure on - relationship between compensation and repurchase intentions
La and Choi (2012)	• Analysis of effects of customer affection and trust on loyalty intentions	• Written survey among students in South Korea (n=199) • Services (several)	• Confirmatory factor analysis • Structural equation modeling	• Customer trust before recovery is positively influenced by - customer affection before recovery • Customer trust after recovery is positively influenced by - customer trust before recovery - customer affection after recovery - recovery satisfaction • Customer affection after recovery is positively influenced by - recovery satisfaction • Loyalty intentions before recovery are positively influenced by - customer affection before recovery

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- customer trust before recovery • Loyalty intentions after recovery are positively influenced by - customer affection after recovery - customer trust after recovery
Nguyen, McColl-Kennedy and Dagger (2012)	• Analysis of effects of customer recovery preferences on customer evaluations	• Written survey among consumers in Australia (n=431) • Services (several)	• Exploratory factor analysis • Confirmatory factor analysis • Multivariate analysis of variance	• Satisfaction with recovery is positively influenced by - matching of expectations - recovery solution - recovery preference - interaction of matching of expectations and recovery solution - interaction of recovery preference and recovery solution • Repurchase intentions are positively influenced by - matching of expectations - recovery solution - recovery preference - interaction of matching of expectations and recovery solution - interaction of recovery preference and recovery solution
Roggeveen, Tsiros and Grewal (2012)	• Analysis of effects of customer co-creation during recovery on customer evaluations	• Qualitative interviews (n=12) • Written survey among students in the USA (study 1: n=79, study 2: n=111, study 3: n=87, study 4: n=168) • Scenario-based	• Confirmatory factor analysis • Analysis of variance • Structural equation modeling	• Customer co-creation of service recovery has a positive effect on - satisfaction with recovery process (for severe service delays) - repurchase intentions (for severe service delays) • Compensation has a positive effect on - satisfaction with recovery (for severe service delays) - repurchase intentions (for severe service delays) • Interaction effect of customer co-creation of service recovery and customer perceptions on customer evaluations

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
		experimental research design (study 1:2x2x2, study 2: 2x2, study 3: 2x3, study 4: 2x3) • Services (airlines)		
Van Vaerenbergh, Larivière and Vermeir (2012)	• Analysis of effects of process recovery communication on customer behavioral intentions	• Written survey among consumers in Belgium (study 1: n=477, study 2: n=269) • Online panel survey among consumers (study 3: n=218) • Experimental study among students (study 4: n=114) • Scenario-based experimental research design (study 1: 3x2, study 2: 2x2, study 3: 2x2x2) • Services (bookstores, telecom operators, food retailers)	• Analysis of variance • Multivariate analysis of variance • Multi-level modeling • Univariate tests • Sobel test	• Process recovery communication has a positive impact on - overall satisfaction - repurchase intentions - word-of-mouth intentions • Perceived relationship investment has a positive effect on - overall satisfaction - repurchase intentions - word-of-mouth intentions • Perceived justice has a positive effect on - overall satisfaction - repurchase intentions - word-of-mouth intentions • Interaction effect of recovery communication and failure experience on - overall satisfaction - repurchase intentions - word-of-mouth intentions • Mediating effect of perceived relationship investment on relationship of - process recovery communication and overall satisfaction

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- process recovery communication and repurchase intentions - process recovery communication and word-of-mouth intentions • Mediating effect of perceived justice on relationship of - process recovery communication and overall satisfaction - process recovery communication and repurchase intentions - process recovery communication and word-of-mouth intentions
Vázquez-Casielles, Iglesias and Varela-Neira (2012)	• Analysis of effects of compensation and explanation on customer outcome variables	• Written survey among consumers in Spain (n=432) • Scenario-based experimental research design (2x2x2) • Services (airlines)	• Principle component factor analysis • Analysis of variance • T-tests	• Compensation has a positive effect on - satisfaction - company complaints - repurchase intentions - positive word-of-mouth communication • Compensation has a negative effect on - negative word-of-mouth communication - third party complaints • Explanation has a positive effect on - satisfaction - repurchase intentions - positive word-of-mouth communication - company complaints - third party complaints • Anger has a positive effect on - satisfaction - repurchase intentions - positive word-of-mouth communication - negative word-of-mouth communication

Author(s)	*Focus of investigation*	*Data foundation*	*Method of analysis*	*Central findings*
				- company complaints - third party complaints • Interaction effect of failure stability and compensation on - satisfaction - repurchase intentions - positive word-of-mouth communication - negative word-of-mouth communication - company complaints - third party complaints • Interaction effect of failure stability, compensation and social comparison on - satisfaction - repurchase intentions - positive word-of-mouth communication - negative word-of-mouth communication - company complaints - third party complaints
Fang, Luo and Jiang (2013)	• Analysis of dynamic effects of recovery on customer satisfaction	• Telephone survey among consumers in China • Services (mobile phone providers)	• Augmented Dick-Fuller test • Pair-wise Granger causality tests • Bayesian estimation • Time-series econometric models	• Customer satisfaction is positively influenced by - quality improvement (intermediate / long-term effect) - compensation (intermediate / long-term effect) - apology (intermediate effect) - communications (intermediate / long-term effect)

Appendix 3: Original statements from qualitative interviews

Category	Respondent	Original quote (German language)	Translated quote (English language)
Nature of failures	RM01	*„Ja, generell ist es ja nun mal so, dass wir bei unseren Lieferanten i.O.-Produkte bestellt haben. Das heißt, im Moment, wo ein Vertrag zustande gekommen ist, für Lieferungen, dann gehen wir erstmal davon aus, dass Lieferungen, die zu uns kommen, fehlerfrei sind.“*	*Yes, it is a matter of fact that we have ordered OK products from our supplier. This means that in the moment where a contract comes into effect for a supply, we assume that the supplies that reach us are free from defects.*
Nature of failures	RS11	*„Wenn ein Ding ausfällt, wird haarscharf geguckt, ist die Komponente nach Spezifikation. Ja oder Nein.“*	*When a thing fails, it is analyzed absolutely precise if the component is according to specification. Yes or no.*
Nature of failures	RM04	*„Vor kurzem hatte ich eine erhebliche Störung in Standort U und wenn man sich das überlegt, wieviel Arbeitszeit von uns (..) in diese Störung hineingewandert sind (...), dann ist so eine Störung doch schon sehr erheblich für die Bindung von Ressourcen.“*	*Recently, I had a significant disruption at location U and when you consider how much of our working time (..) went into this disruption (...) then such kind of disruptions are considerable for the binding of resources.*
Nature of failures	RS10	*„Ich meine, den Imageverlust, den hat der Hersteller E. (...) Wie gesagt, Sie als Endkunde sehen ja nur den Hersteller E und nicht den Zulieferer, der dahintersteckt. (...) Ihnen ist das egal, warum das Produkt F von Zulieferer C oder von Zulieferer A nicht tut.“*	*I mean that the loss of reputation is owned by the manufacturer E. (...) As said, you as a consumer do only see the manufacturer E and not the supplier, who is behind it. (...) It does not matter for you why the product F from supplier C or from supplier A does not work.*
Nature of failures	RS04	*„So, und die [Störung] muss irgendwie aus der Welt geschaffen werden. Sonst eskaliert das Thema und wenn es dann irgendwann lange genug eskaliert, ist es nicht mehr einzufangen. Und das kann dann also bis zum Abbruch einer Geschäftsbeziehung führen.“*	*So, and then the [disruption] needs to be disposed of once and for all. Otherwise the issue will escalate and when it has escalated long enough, it cannot be recaptured. And this may lead then to the termination of the business relationship.*

Nature of failures	RS04	*„Das heisst für mich wird es auf alle Fälle sehr viel teuerer als ich mit dem Einzelerzeugnis überhaupt umgesetzt habe. Das heisst, weder Umsatz noch Gewinn des Einzelteiles stehen für mich im Verhältnis zu dem, was mich ein Ausfall kostet."*	*This means for me that, in any case, it gets significantly more expensive than the turnover I have created with this single product. This means neither turnover nor profit of the single product are in proportion to the costs related to this failure.*
Nature of failures	RS08	*„Weil das was als Kosten anfällt, ist das ein Zulieferer A, die Wirkung, klar, das ist im Prinzip reiner Gewinn. (...) Also, Sie beeinflussen durch Kosten ja das Ergebnis. Direkt. (...) Das ist nicht wie, wenn Sie an der Kosten-Schraube drehen und die Fertigungskosten. Also, das was Sie hier sparen oder zuviel ausgeben, ist Ergebnis."*	*Because this what accrues as costs, it is a supplier A, the effect, clearly, that is in principle pure profit. (...) Thus, you impact through the costs the profit. Directly. (...) That is not like as if you turn the cost spiral and the manufacturing costs. So, what you safe or spend here is profit.*
Nature of recovery	RS11	*„Der Kunde weiß, was er erwarten darf. Wir wissen, was wir zu liefern haben. Beide Seiten wissen, wer wie lange worauf Anspruch hat. (...) Wie in einem Falle jetzt eines Nichterreichens der zugesicherten Eigenschaften, wie dann zu verfahren ist. (...) Also, von daher ist es für mich ein wesentliches Element der Geschäftsbeziehung. (...) Es ist einmal die klare Regelung und eben dann auch die professionelle Abwicklung."*	*The customer knows what he can expect. We know what we have to deliver. Both sides know who is entitled to claim for what for how long. (...) How to proceed in the case that the assured properties have not been met. (...) Therefore, it is an essential element of the business relationship. (...) It is on the one hand the clear arrangement and then also the professional execution.*
Nature of recovery	RM02	*„Also, auch das Hause Zulieferer A hat deutliche interne Anstrengungen übernommen, (...) was sich in einer deutlichen Qualitätsverbesserung unserer Produkte zeigt. Trotzdem, diese prozessualen Themen sind nach wie vor schwerfällig und müßig und eine innere Haltung proaktiv unsere Kunden vor solchen Schäden (...) zu schützen, ist nicht immer so ausgeprägt, wie ich mir das vorstelle."*	*Thus, also the suppler firm A has undertaken considerable internal efforts (...), which is reflected by the significant quality improvements of our products. Nevertheless, these procedural issues are still lumbering and idle and an inner attitude to proactively save our customer from these failures (...) is not always as developed as what I would imagine.*
Nature of recovery	RM01	*„Es gibt ja bestimmte Kernprozesse, die wir von Hersteller M selbst entwickeln und wo wir auch sehr intensiv mit dabei sind*	*There are certain core processes, which we as the manufacturer M develop ourselves and where we are also very intensively in-*

		und andere Prozesse liegen eben hundert Prozent beim Lieferanten. Insofern macht das wenig Sinn, wenn wir da alleine loslaufen würden, weil wir da uns hoffnungslos verrennen würden und deswegen ist die Fachkompetenz eigentlich des Lieferanten an der Stelle gefordert.“	*volved and other processes are just hundred percent with the supplier. Therefore, it makes little sense when we would start running alone because we would hopelessly get lost und that is why the expertise of the supplier is required in place.*
Dimensions of recovery	RS08	*„Die Rolle in der Geschäftsbeziehung wäre dann natürlich wieder, dass man so (...) unliebsame Themen, die sie belasten können, sagen wir mal, kontrolliert abturnt und so die Geschäftsbeziehung nicht stört, durch solche Dinge. (...) Da kann man recht gut, weil das ja immer Ärgernisse sind, da kann man sich ja die Geschäftsbeziehung auch positiv beeinflussen, nicht?“*	*The role of the business relationships would be certainly, again, that one can process (...) disagreeable issues, which can strain it, lets put it this way, in a controlled manner and therefore not disturb the business relationship through these things. (...) One can quite well because that are always annoying things one can positively influence the business relationship, right?*
Dimensions of recovery	RS04	*„Sondern ich muss heute als Zulieferer daran denken, dass ich eigentlich weiß, was das Teil kostet, wenn das Teil ausfällt bevor der erste Strich auf der Zeichung gemacht ist (...). Das heisst, ich muss also auch dann sehr genau wissen, was mein Produkt technisch entsprechend kann (...) und dass ich entsprechend auch Sorgfalt walten lassen werde, mein Produkt entsprechend zu entwicklen.“*	*But I need to consider as a supplier today that I actually know what the product will cost when it fails before the first line has been made on the drawing (...). This means that I have to also know exactly what my product technically is able to achieve (...) and that I exercise due care to develop my product accordingly.*
Dimensions of recovery	RS08	*„Wir ziehen die Daten von Hersteller B herunter, weltweit. Wir lassen da, durch ein paar Softwareprogramme sortieren und wir sagen denen, das ist in dem Fall so (...) dass wir sagen: ‚Wir haben, Ihr habt ein Problem in Region F.‘ (...) Und wenn ich das sehr zeitnah mache, sehe ich: ‚Ok, hier passiert was. Wir haben ein Produktproblem (...) und wir müssen nachbessern. Entwicklungsseitig, Applikationsseitig.‘“*	*We download the data from manufacturer B worldwide. We use a couple of software programs to sort and we say to them that is in this case so (...) that we say, ‘We have, you have a problem in region F.’ (...) And when I do this promptly, I see, ‘Ok, something is happening here. We have a product problem (...) and we need to correct. From development, from application.’*

Dimensions of recovery	RS10	*„Manchmal, wie gesagt, sind diese so genannten Selbstanzeigen, wo wir dann feststellen: ‚Ups, wir haben jetzt eine Charge ausgeliefert, da ist', ich weiß nicht ‚irgendwas falsch dran.' (...) Wenn wir Glück haben, sind sie beim Kunden noch am Lager, wenn wir weniger Glück haben, sind sie schon in Produkten verbaut und wenn wir Pech haben, sind die Produkte halt schon ausgeliefert. Aber das ist eher seltener."*	*Sometimes, as said, are these so called self-denunciations where we ascertain: 'Ups, we have now supplied a batch, there is', I do not know, 'something wrong with it.' (...) When we are fortunate, these are still in the customer warehouse, when we are less fortunate, these are already build into products and when we are unfortunate, the products have been already supplied. But this is rather rare.*
Dimensions of recovery	RM04	*„Der Werker sieht das und das passiert auch sehr häufig, dass er sagt, dass er in die Kiste greift und guckt: ‚Was ist das denn? Das ist ja anders als das vorher und außerdem hat das hier einen kleinen Kratzer und der Kratzer ist immer an der gleichen Stelle.' (...) Dann wird automatisch, wird dann auch rejected."*	*The worker sees this and this happens very often, that he says, that he graps into the box and sees, 'What is this? This is different than those before and, in addition, this one here has a small scratch and the scratch is always at the same spot.' (...) Then, automatically, it will be rejected.*
Dimensions of recovery	RM01	*„Je schneller ein Lieferant reagieren kann, je schneller er den Fehler beseitigt, dauert seinen Prozess heraus, umso besser ist es natürlich auch für ihn. Erstmal von den Kosten her. Sie müssen sich vorstellen, wenn sie am Tag viertausend Produkte bauen (...) und sie warten zehn Tage, dann haben sie vierzigtausend Produkte mit dem gleichen Fehler noch draußen. (...) Also, Schnelligkeit, über die Schnelligkeit des Fehlerabstellprozesses können sie sehr, sehr viel Geld sparen."*	*The fast a supplier can react, the faster he can resolve the failure, takes his process, the better it is certainly for him as well. First of all from the cost side. You need to imagine when you produce four thousand products a day (...) and you wait ten days, then you have fourty thousand products with the same failure still outside. (...) Thus, speed, through the speed of the failure resolution process you can save very, very much money.*
Dimensions of recovery	RM01	*„Also, wichtig für mich am Ende ist, dass der Lieferant eine sehr genaue und tiefe Analyse durchgeführt hat. In Einzelfällen versuchen wir gemeinsam in der Analyse Vorgehen festzulegen. (...) Also, die Qualität der Analyse ist für mich entscheidend. Es ist also die Erwartung, die wir an den Lieferanten stellen, ist die Qualität der Analyse."*	*Thus, important is for me in the end that the supplier has conducted a very precise and detailed analysis. In individual cases, we try to mutually define the analysis procedures. (...) Thus, the quality of the analysis is decisive for me. It is the expectation, which we have towards the supplier, is the quality of the analysis.*

Dimensions of recovery	RS08	*„Und jetzt reden wir über das, was wir verbessern können. Wir als Zulieferer A ursächlich. (...) Und den tracken wir dann selbst separat. Also, da machen wir einen Schnitt."*	*And now we talk about what we are able to improve. We as supplier A causally. (...) And this one, we track ourselves separately. So, we make a cut there.*
Dimensions of recovery	RS04	*„Wenn ich weiß, dass Dinge draußen passieren und dass es Umstände gibt, die mein Erzeugnis, denen mein Erzeugnis nicht Stand hält, kann ich es darauf hin gezielt verbessern. (...) Das heisst, wenn es mir gelingt zeitnah diese Erkenntnisse zu gewinnen, kann ich die Qualität verbessern und die Kosten senken."*	*When I know that things happen outside and there are circumstances, which my product, which my product cannot withstand, I need to specifically improve it thereon. (..) This means when I succeed gaining these insights promtly, I can improve the quality and reduce the costs.*
Dimensions of recovery	RS04	*„Das heißt, der Kunde hat also aus markttechnischen Gesichtspunkten ein sehr starkes Interesse daran, diese Fälle zu reduzieren. (...) Nicht erfolgreich ist immer die Wiederholung desselben Fehlers. (...) Solange Sie Fehler machen und aus denen lernen, ist das akzeptiert und gewünscht. Sobald Sie denselben Fehler zweimal machen und nichts daraus lernen, ist es lästig. Und wenn Sie ihn das dritte Mal machen, dann fängt das Image an zu leiden."*	*This means the customer has, from a market perspective, a very strong interest to reduce these failures. (...) Not successful is always the repetition of the same failure. (...) As long as you make failures and you learn from it, it is accepted and desired. As soon as you make the same failure twice and do not learn from it, it is annoying. And when you make it a third time, then the image starts to suffer.*
Dimensions of recovery	RM01	*„Es gibt aber auch Fälle, wo, ja, der Kundenfehler nicht gefunden wird. (...) In diesem Fall muss man klären, wie man gemeinsam versucht, das Problem zu lösen. Das heißt, in der Regel findet der Lieferant ja, das liegt nicht am Einzelteil, sondern das muss dann irgendwo im Zusammenspiel im Produkt (..) gefunden werden und dass man versuchen muss, eine gemeinsame Lösung dafür zu finden."*	*But there are also cases where, yes, the customer failure is not found. (...) In this case, it has to be clarified how the problem can be mutually resolved. This means, normally, the supplier finds out that it is not caused by the individual component, but it needs to be found somewhere in the interaction with the product (..) and it needs to be attempted to find a mutual solution for it.*
Dimensions of recovery	RS04	*„Wenn Sie das geben, dann wird er nicken und das aber nicht als besonders entgegenkommend bewerten, weil er das ja in seinem Vertragsbedingungen oder seinen Einkaufsbedingungen ja*	*When you give this, then he will nod, but will not evaluate it as specifically accomodating because he has considered it in his contractual terms or his conditions of purchasing anyway. (...)*

		sowieso schon stehen hat. (...) Aber er wird es mir nicht honorieren, wenn ich Ihm mehr gebe als er verlangt.“	*But he will not honor it when I give him more than he demands.*
Dimensions of recovery	RS04	*„In der ersten Phase ist Kompensation meistens nicht das Thema. (...) Da geht es wirklich darum, Ursache finden, abstellen, Sofortmaßnahmen einführen. Egal, was es kostet. (...) Und das erfreut sich dann immer sehr hoher Beliebtheit, dieses Thema und da geht es also zunächst mal wirklich dann um die Lösung und das Abstellen des Problems. (...) Und das Säubern des Bestandes und dann natürlich, im zweiten Schritt, auch um das Geld, die Zahlung des Unternehmens.“*	*In the first phase, compensation is usually not the issue. (...) What really counts is finding the root cause, remedy of the problem, implementation of interim measures. No matter what it costs. (...) And this always receives very high popularity, this issue and then it is initially related really to the solution and the resolution of the problem. (...) And the clearing of the stock and then certainly, in the second step, also about the money, the payment of the firm.*
Dimensions of recovery	RS10	*„Und dann aber auch die Kommunikation, der direkte Draht zwischen dem Werker beim Hersteller E und dem Werker oder dem Qualitäter beim Zulieferer A. (...) Die müssen sich verstehen und müssen sich austauschen. (...) Schnelle Kommunikation, offene Kommunikation. Also, wir hatten schon Fälle, wo wir wirklich Mist gebaut haben und haben dem Hersteller D sehr viel Ärger verursacht. (...) Aber das wurde von Hersteller D als Erfolgsstory proklamiert, weil wir proaktiv ihn informiert haben.“*	*And then also the communication, the direct connection between the worker at the manufacturer E and the worker or quality manager at supplier A. (...) They need to understand eachother and need to exchange information with eachother. (...) Quick communication, open communication. So, we already had cases where we really messed things up and we have caused a lot of trouble for manufacturer D. (...) But it has been proclaimed by manufacturer D as a success story because we have informed him proactively.*
Dimensions of recovery	RM02	*„Ich sehe die konkrete Aufgabe, dass nicht wir der Treiber nur allein sind, sondern dass auch das Haus des Zulieferers sehr genaue Datenaufschriebe hat: ‚Jetzt haben die uns schon hundertfünfzig Produkte M in drei Monaten geschickt (...) und wir haben dreißig Prozent der Teile wieder zurückgegeben. Ich kann nichts finden.‘ (...) Dass er Vorschläge macht, wie kann man das sehr schnell beseitigen. (...) Und nicht sagt, ’Hersteller E mach mal’, sondern er hat hier eine ganz massive Rolle, eine*	*I see the concrete task that we are not the only drivers, but that the supplier firm has a very detailed documentation: ‘Now they have sent us already hundred and fifty products M within three months (...) and we have sent back thirty percent of the parts. I cannot find anything.’ (...) That he makes proposals how it can be eliminated very quickly. (...) And does not say: ‘Manufacturer E, please do‘, but he has a really massive role, an active role to handle the issue proactively. (...) May be also to make proposals*

		aktive Rolle, proaktiv das Thema zu bearbeiten. (...) Vielleicht auch mal Vorschläge macht, wie könnte man das mit einer anderen Lösung finden."	*how it can be found with a different solution.*
Dimensions of recovery	RS08	*„Wenn Sie da eine gute Beziehung definiert haben, können Sie die anders abturnen (...) als wenn sie hier völlig neutral nebeneinander herrennen und keine Geschäftsbeziehung haben, nicht? (...) Und, ja, wenn sie dann mit fair, wenn sie einen Weg finden, Kontakt aufzubauen, mit den Leuten, die den gleichen Job auf der anderen Seite haben, (...) dann, da kriegen sie da eine ganz gute Beziehung hin. Über diesen Kanal können Sie viel absteuern."*	*If you have defined a good relationship, you can handle things differently (...) than if you neutrally coexist and do not have a business relationship, right? (...) And, yes, if you then with fair, if you find a way to develop contact with individuals having the same job on the other side, (...) then you can establish a quite good relationship. Through this channel, you can solve a lot.*
Dimensions of recovery	RS08	*„Und wenn das ein hundert Prozent Kundenproblem ist, muss er ihm trotzdem erstmal helfen. Also muss er ihm insofern zumindest helfen, dass er ihm einfach Licht ins Dunkel bringt, was das eigentliche Problem ist. Und es ist einfach ein Stück weit eine Einstellungsfrage, wie sie mit dem Kunden auch umgehen."*	*And even if this is a hundred percent customer problem, he needs to help him regardless of the situation. So, he needs to help him at least to bring some light in the dark, what the actual problem is. Thus, it is a question of attitude, how you handle your customers.*
Dimensions of recovery	RM03	*„Ich erwarte in den verabredeten Prozessen mehr Kooperationsbereitschaft und Wille Fehler schnell zu erkennen und abzustellen. (...) Das sind mindestens so gute Leute, wie wir sie haben, vielleicht sogar noch bessere. Auch in großer Anzahl. Aber die werden nicht immer eingebracht, wenn der Kunde ein Problem hat."*	*I do expect within the agreed processes more willingness and cooperation to identify and resolve failures. (...) These individuals are at least as good as our people, may be even better. Also in a large quantity. But these are not always involved when the customer has a problem.*
Dimensions of recovery	RM02	*„Nicht-Suchen von irgendwelchen Hintertürchen, wie ich mich davon schleichen kann (...), dass ich keine finanziellen Auswirkungen habe. Offene und ehrliche Zusammenarbeit."*	*Not searching for any loopholes how I can steal off (...), that I do not have financial consequences. Open and honest cooperation.*

Dimensions of recovery	RM03	*„Das Erste ist Offenheit. (…) Das heißt, in der Regel oder sehr häufig wissen Lieferanten bereits im Produktionsprozess, dass hier irgendwelche Abweichungen sind. (...) Ja, es geht immer wieder darum, offen mit dem Thema umzugehen."*	*The first thing is frankness. (…) This means that generally or very often suppliers know already in the production process that there are some deviations. (…) Yes, the point always is that the issue needs to be treated openly.*
Dimensions of recovery	RS06	*„Gut, ich sage mal, das was man generell im Geschäftsleben wahrscheinlich erwartet. Fair, höflich, freundlich, ehrlich. Was gibt es noch Schönes als wertschätzend behandelt zu werden. (…) Aber ich würde schon sagen, dass die Behandlung gehobene Rolle spielt."*	*Well, I would say, all of what you generally expect in business life. Fairly, politely, friendly, honestly. Is there anything more enjoyable than being treated in an appreciative way. (…) But I would say that the treatment attains an elevated role.*
Consequences of recovery	RS10	*„Beim Hersteller E werden sie gelobt, weil sie schnell den Fehler gemeldet haben. (…) Also, es hat einen positiven Einfluss auf die Geschäftsbeziehung. (…) Offenheit wird einfach anerkannt und wie gesagt, jeder weiß, wo gehobelt wird, fallen Späne. (…) Aber nicht verstecken, sondern partnerschaftlich sein, es fördert die Partnerschaft, sage ich mal irgendwo. (…) Das schafft Vertrauen. Das ist gut. Genau, das schafft Vertrauen."*	*At manufacturer E, you are praised because you have reported the failure quickly (…). Thus, it has a positive impact on the business relationship. (…) Frankness is simply acknowledged and, as I said, everybody knows, you cannot make an omlette without breaking eggs. (…) However, do not hide, but be cooperative, it facilitates the partnership, I would say. (…) This creates trust. This is good. Right, this creates trust.*
Consequences of recovery	RS10	*„Mit dem Hersteller D [haben wir] hundert Prozent Lieferanteil. Wir verursachen Ärger, wir verursachen ihm einen Haufen Kosten, wir verursachen ihm Reputationsverlust am Markt draußen (…) und er ist trotzdem ein hundert Prozent-Kunde über Jahre."*	*With the manufacturer D [we have] hundred percent share of wallet. We cause trouble, we cause a lot of costs for him, we cause a loss of reputation in the market outside for him (…) und he is still a hundred percent customer over years.*
Consequences of recovery	RS08	*„Und das ist ja auch wieder ein kleiner Punkt in der Geschäftsbeziehung, zu sagen: ‚Ok, wir kaufen jetzt beim billigen Jakob irgendwo ein, für ein paar Cent weniger und wir haben eine Krise und wir stehen alleine im Regen. (…) Oder wir kaufen bei einem ein, der sturmerprobt ist, vielleicht zahlen wir zwei Cent*	*And this is also again a small point in the business relationship, to say: 'Ok, we now buy at the cheap Jack somewhere, for a couple of cents less and we have a crisis and we stand alone in the rain. (…) Or we buy at someone, who is weather-beaten, may be we pay two cents more, the product is also good and we receive*

		mehr, das Produkt ist auch gut und wir kriegen dann aber (…) diesen Zulieferer A-Service.‘“	*then also (…) this supplier A service.’*
Consequences of recovery	RM02	*„Ja, natürlich. Ich würde, wenn wir mit dem Einkauf sitzen, und über die Lieferantenbewertung reden, würde ich sagen: ‚Und lieber Einkäufer, wenn der auch zwei Cent teurer ist, dem gibst Du bitte den nächsten Auftrag.’ Ich als Qualitäter kann sagen: ‚Super Verhältnis.‘“*	*Yes, certainly. I would when we are sitting with purchasing and talk about the supplier evaluation, I would say: ‘And dear buyer, even if he is two cents more expensive, please give the next order to him.’ As a quality manager, I can say, ‘Very good relationship.’*
Consequences of recovery	RS10	*„Also, man hilft dem Kunden, aber hilft ja auch sich selber. (…) Indem ich, ja, je schneller ich was abstelle, umso weniger kostet es mich im Endeffekt. (…) Wir haben da auch ein Eigeninteresse dran. (…) Beide Parteien, ja.“*	*So, you help the customer, but you also help yourself. (…) By, yes, the faster I resolve something, the less it costs for me in the end. (…) We certainly have a self-interest at it. (…) Both parties, indeed.*
Consequences of recovery	RM01	*„Unsere Erwartungshaltung natürlich als Techniker, wenn auf meiner Seite natürlich wir Qualität zusagen, ist natürlich, dass wir versuchen, den Fehler schnellstens zu beseitigen, weil je länger der Fehler sich irgendwo hinschleppt, umso mehr Geld kostet es im Endeffekt für beide Unternehmen. (…) Es ist ökonomisch besser, man sagt gleich wo der Fehler ist, wie man den Fehler beseitigen kann, was man tun kann und möglichst schnell das ganze Thema erledigen kann. (…) Das wäre das wirtschaftlichste Thema.“*	*Our expectations as technicians, naturally, are that when we promise quality from my side, that we certainly try to resolve the failure quickly because the longer the failure drags along somewhere, the more money it costs in the end for both firms. (…) It is more economical, that it is directly said where the failure is, how the failure can be resolved and what can be done to conclude the whole issue. (…) That would be the most economical issue.*

Appendix 4: Measurement items of quantitative investigation

Construct	Item	*In unserem Unternehmen …*	*In our firm …*
Proactive recovery process (PRP)	PRP1	*… sind proaktive Maßnahmen eingeführt, um Fehler zu behandeln.*	*… proactive measures are introduced to handle failures.*
	PRP2	*… sind Schritte umgesetzt, um Fehler zu handhaben, bevor diese von Kunden wahrgenommen wurden.*	*… measures are installed to handle failures before these have been perceived by customers.*
	PRP3	*… sind Maßnahmen implementiert, um Fehler zu behandeln bevor Kunden diese reklamiert haben.*	*… measures are implemented to handle failures before customers have complained.*
Proactive recovery outcome (PRO)	PRO1	*… sind proaktive Maßnahmen eingeführt, um Fehler zu beheben.*	*… proactive measures are introduced to resolve failures.*
	PRO2	*… sind Schritte umgesetzt, um das wiederholte Auftreten von Fehlern zu vermeiden.*	*… measures are installed to avoid the occurence of failures.*
	PRO3	*… sind Maßnahmen implementiert, um zukünftige Fehler zu verhindern.*	*… measures are implemented to prevent the occurence of future failures.*
Proactive recovery interaction (PRI)	PRI1	*… sind proaktive Maßnahmen eingeführt, um Kunden in Fehlersituationen zu unterstützen.*	*… proactive measures are introduced to support customers in failure situations.*
	PRI2	*… sind Schritte umgesetzt, sodass Mitarbeiter bei Fehlern mit Kunden in Kontakt treten.*	*… measures are installed that employees get in contact with customers in failure situations.*
	PRI3	*… sind Maßnahmen implementiert, sodass Mitarbeiter bei Fehlern Kunden direkt ansprechen.*	*… measures are implemented that employees directly approach customers in failure situations.*
Reactive recovery process (RRP)	RRP1	*… sind reaktive Maßnahmen eingeführt, um Fehler zu behandeln.*	*… reactive measures are introduced to handle failures.*
	RRP2	*… sind Schritte umgesetzt, um Fehler zu handhaben nachdem diese von Kunden wahrgenommen wurden.*	*… measures are installed to handle failures after these have been perceived by customers.*
	RRP3	*… sind Maßnahmen implementiert, um Fehler zu behandeln nachdem Kunden diese reklamiert haben.*	*… measures are implemented to handle failures after customers have complained.*

Reactive recovery outcome (RRO)	RRO1	*... sind reaktive Maßnahmen eingeführt, um Fehler zu beheben.*	*... reactive measures are introduced to resolve failures.*
	RRO2	*... sind Schritte umgesetzt, um aufgetretene Fehler abzustellen.*	*... measures are installed to resolve occuring failures.*
	RRO3	*... sind Maßnahmen implementiert, um vorhandene Fehler zu beseitigen.*	*... measures are implemented to eliminate current failures.*
Reactive recovery interaction (RRI)	RRI1	*... sind reaktive Maßnahmen eingeführt, um Kunden in Fehlersituationen zu unterstützen.*	*... reactive measures are introduced to support customers in failure situations.*
	RRI2	*... sind Schritte umgesetzt, sodass Mitarbeiter bei Fehlern auf Kundenanfragen reagieren.*	*... measures are installed that employees respond to customers in failure situations.*
	RRI3	*... sind Maßnahmen implementiert, sodass Mitarbeiter bei Fehlern für Kunden erreichbar sind.*	*... measures are implemented that employees are available for customers in failure situations.*

Construct	**Item**	***Wie beurteilen Sie Ihre Geschäftsbeziehung zu dem Lieferanten?***	***How do you evaluate your business relationship with this supplier firm?***
Relationship trust (RELTRU)	RELTRU1	*Dieser Lieferant hält seine Zusagen unserem Unternehmen gegenüber ein.*	*This supplier keeps promises it makes to our firm.*
	RELTRU2	*Dieser Lieferant ist daran interessiert, dass unser Unternehmen erfolgreich ist.*	*This supplier is genuinely concerned that our business succeeds.*
	RELTRU3	*Dieser Lieferant ist generell vertrauenswürdig.*	*This supplier is trustworthy.*
Relationship commitment (RELCOM)	RELCOM1	*Die Beziehung zu diesem Lieferanten ist für unser Unternehmen sehr wichtig.*	*The relationship with this supplier is something our business really cares about.*
	RELCOM2	*Wir sind der Beziehung zu diesem Lieferanten sehr verpflichtet.*	*The relationship with this supplier is something to which we are very committed.*
	RELCOM3	*Die Beziehung zu diesem Lieferanten verdient es, in besonderem Maße gepflegt zu werden.*	*The relationship with this supplier deserves our business' maximum effort to maintain.*

Relationship satisfaction (RELSAT)	RELSAT1	*Unser Unternehmen ist mit diesem Lieferanten sehr zufrieden.*	*Our firm is very satisfied with this supplier.*
	RELSAT2	*Wenn sich unser Unternehmen noch einmal entscheiden müsste, würde die Wahl wieder auf diesen Lieferanten fallen.*	*Our firm would still choose to use this supplier if we had to do it all over again.*
	RELSAT3	*Unser Unternehmen ist mit dem, was dieser Lieferant für uns tut, sehr zufrieden.*	*Our firm is very pleased with what this supplier does for us.*

Construct	**Item**	***Inwieweit beabsichtigt Ihr Unternehmen weiterhin bei dem Lieferanten einzukaufen?***	***How much does your firm intend to continue purchasing from this seller firm?***
Repurchase intentions (REPINT)	REPINT1	*Wir werden wieder bei diesem Lieferanten einkaufen.*	*We will purchase from this supplier again.*
	REPINT2	*Wir erwarten, dass dieser Lieferant lange mit uns zusammenarbeitet.*	*We expect this supplier to be working with us for a long time.*
	REPINT3	*Wir beabsichtigen, diesem Lieferanten treu zu bleiben.*	*We intend to stay loyal to this supplier.*

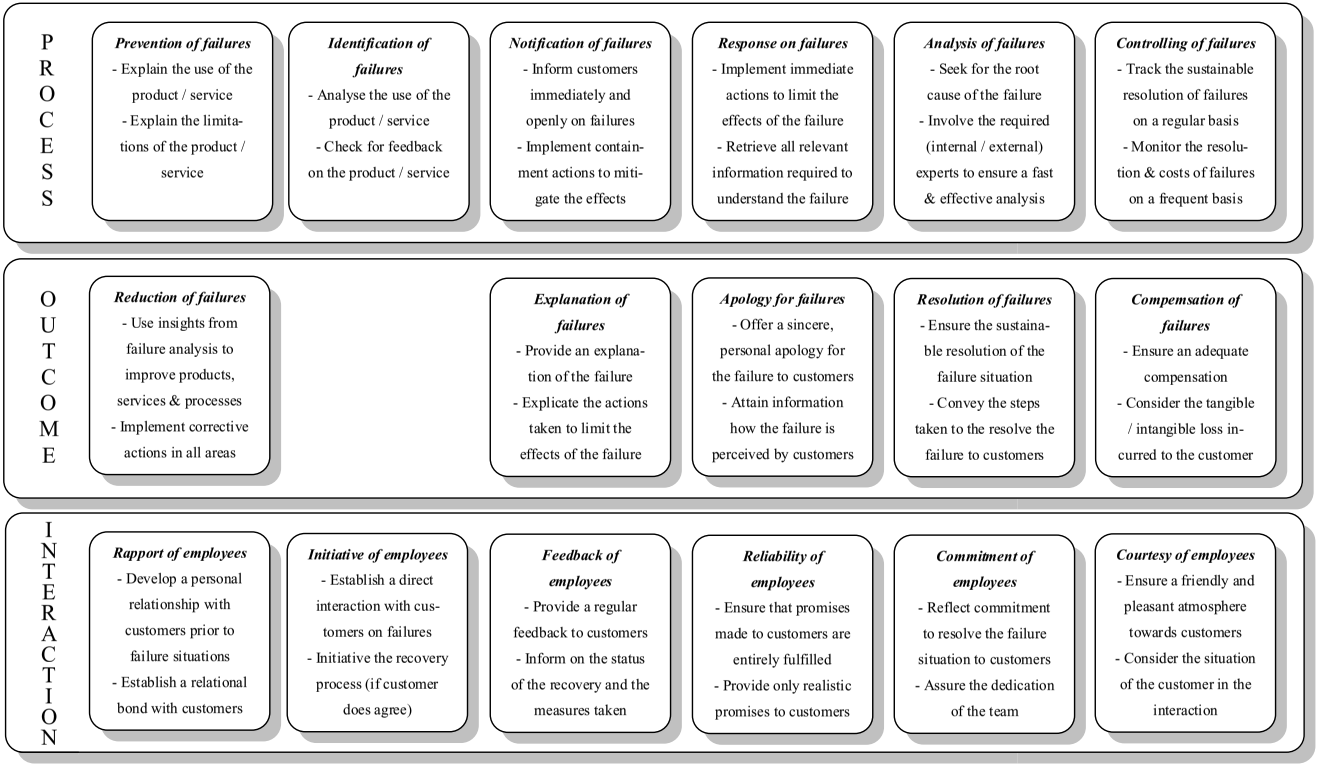
Construct	**Item**	***Inwieweit beabsichtigt Ihr Unternehmen zukünftig mehr bei dem Lieferanten einzukaufen?***	***How much does your firm intend to extend purchasing from this seller firm?***
Expansion intentions (EXPINT)	EXPINT1	*Wir erwarten, unsere Geschäfte mit diesem Lieferanten auszuweiten.*	*We expect to expand our business with this supplier firm.*
	EXPINT2	*In den kommenden Jahren werden wir mit diesem Lieferanten stärker zusammenarbeiten.*	*Over the next few years, this supplier firm will be used more than it is now.*
	EXPINT3	*Dieser Lieferant wird in Zukunft einen größeren Teil unserer Aufträge bekommen.*	*In the future, this supplier firm will receive a larger share of our business.*

Construct	Item	*Wie wahrscheinlich ist es, dass Ihr Unternehmen bei einem Preisanstieg weiterhin bei diesem Lieferanten einkauft?*	*How probable is it that your firm continues purchasing from this seller firm if prices would increase?*
Willingness to pay more (WTPM)	WTPM1	*Unser Unternehmen würde bei einer geringfügigen Preiserhöhung weiterhin Geschäfte mit diesem Lieferanten tätigen.*	*Our firm would continue to do business with this supplier firm if its prices increased somewhat.*
	WTPM2	*Unser Unternehmen würde für die Leistungen dieses Lieferanten einen höheren Preis als bei Mitbewerbern zahlen.*	*Our firm would pay a higher price than competitors charge for the benefits we currently receive from this supplier firm.*

Construct	Item	*Wäre die Behebung des Fehlers nicht versucht worden, hätte der Fehler unserem Unternehmen …*	*The product / service failure could have cost our firm much … if no resolution had been attempted.*
Severity of failure (SEVFAL)	SEVFAL1	*… hohe Kosten verursachen können.*	*… money …*
	SEVFAL2	*… einen großen Zeitaufwand hervorrufen können.*	*… lost time …*
	SEVFAL3	*… viele Unannehmlichkeiten bereiten können.*	*… inconvenience …*

Construct	Item	*In unserer Branche …*	*In our industry …*
Competitive intensity (COMINT)	COMINT1	*… herrscht ein schonungsloser Wettbewerb.*	*… competition is ruthless.*
	COMINT2	*… ist der Preiswettbewerb bei Produkten / Dienstleistungen ein besonderes Kennzeichen.*	*… price competition for products / services is a hallmark.*

Appendix 5: Practical implications of recovery management framework



Bibliography

Aaker, D. A.; Kumar, V.; Day, G. S. (2003). Marketing Research, 8th ed, Hoboken.

Adams, J. S. (1963). Towards an Understanding of Inequity, in: Journal of Abnormal and Social Psychology, Vol. 67, No. 5, pp. 422-436.

Adams, J. S. (1965). Inequity in Social Exchange, in: Berkowitz, L. (ed.). Advances in Experimental Social Psychology, New York, pp. 267-299.

Albers, S.; Hildebrandt, L. (2006). Methodische Probleme bei der Erfolgsfaktorenforschung - Messfehler, formative versus reflektive Indikatoren und die Wahl des Strukturgleichungsmodells, in: Zeitschrift für betriebswirtschaftliche Forschung, Vol. 58, No. 2, pp. 2-33.

Anderson, E. W.; Fornell, C.; Lehmann, D. R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden, in: Journal of Marketing, Vol. 58, No. 3, pp. 53-66.

Anderson, E. W.; Sullivan, M. (1993). The Antecedents and Consequences of Customer Satisfaction for Firms, in: Marketing Science, Vol. 12, No. 1, pp. 125-143.

Anderson, E. W.; Weitz, B. A. (1992). The Use of Pledges to Build and Sustain Commitment in Distribution Channels, in: Journal of Marketing Research, Vol. 24, No. 1, pp. 18-34.

Anderson, J. C.; Narus, J. A. (1990). A Model of Distributor Firm and Manufacturer Firm Working Partnerships, in: Journal of Marketing, Vol. 54, No. 1, pp. 42-58.

Anderson, J. C.; Narus, J. A. (2004). Business Market Management: Understanding, Creating, and Delivering Value, 2nd ed, Upper Saddle River.

Anderson, J. C.; Narus, J. A.; Narayandas, D. (2009). Business Market Management: Understanding, Creating, and Delivering Value, 3rd ed, Upper Saddle River.

Andreasen, A. R.; Best, A. (1977). Consumers Complain - Does Business Respond?, in: Harvard Business Review, Vol. 55, No. 4, pp. 93-101.

Andreassen, T. W. (2000). Antecedents to Satisfaction with Service Recovery, in: European Journal of Marketing, Vol. 34, No. 1/2, pp. 156-175.

Andreassen, T. W. (2001). From Disgust to Delight - Do Customers Hold a Grudge?, in: Journal of Service Research, Vol. 4, No. 1, pp. 39-49.

Armstrong, J. S.; Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys, in: Journal of Marketing Research, Vol. 14, No. 3, pp. 396-402.

K. Döscher, *Recovery Management in Business-to-Business Markets,*
DOI 10.1007/978-3-658-05637-7, © Springer Fachmedien Wiesbaden 2014

Auerbach, S.; Bednarczuk, P.; Büttgen, M. (1997). Recovery Management: Ausnahmesituationen beherrschen, in: Absatzwirtschaft - Zeitschrift für Marketing, Vol. 40, No. 12, pp. 78-85.

Auh, S.; Shih, C. F. (2005). The Relative Effects of Relationship Quality and Exchange Satisfaction on Customer Loyalty, in: Journal of Business-to-Business Marketing, Vol. 12, No. 2, pp. 73-100.

Backhaus, K.; Bauer, M. (2001). The Impact of Critical Incidents on Customer Satisfaction in Business-to-Business Relationships, in: Journal of Business-to-Business Marketing, Vol. 8, No. 1, pp. 25-54.

Backhaus, K.; Erichson, B.; Plinke, W.; Weiber, R. (2006). Multivariate Analysemethoden: Eine anwendungsorientierte Einführung, 11th ed, Berlin.

Backhaus, K.; Voeth, M. (2007). Industriegütermarketing, 8th ed, München.

Bagozzi, R.; Phillips, L. W. (1982). Representing and Testing Organizational Theories: A Holistic Construal, in: Administrative Science Quarterly, Vol. 27, No. 3, pp. 459-489.

Bagozzi, R. P.; Fornell, C. (1982). Theoretical Concepts, Measurements, and Meaning, in: Fornell, C. (ed.). A Second Generation of Multivariate Analysis, 1st ed, New York, pp. 24-38.

Bagozzi, R. P.; Gopinath, M.; Nyer, P. U. (1999). The Role of Emotions in Marketing, in: Journal of the Academy of Marketing Science, Vol. 27, No. 2, pp. 184-206.

Bagozzi, R. P.; Yi, Y.; Phillips, L. W. (1991). Assessing Construct Validity in Organizational Research, in: Administrative Science Quarterly, Vol. 36, No. 3, pp. 421-458.

Bagozzi, R. P.; Yi, Y. J. (1988). On the Evaluation of Structural Equation Models, in: Journal of the Academy of Marketing Science, Vol. 16, No. 1, pp. 74-94.

Baker, T. L.; Meyer, T.; Johnson, J. D. (2008). Individual Differences in Perceptions of Service Failure and Recovery: The Role of Race and Discriminatory Bias, in: Journal of the Academy of Marketing Science, Vol. 36, No. 4, pp. 552-564.

Baron, R. M.; Kenny, D. A. (1986). The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, in: Journal of Personality and Social Psychology, Vol. 51, No. 6, pp. 1173-1182.

Bauer, H. H.; Donnevert, T.; Hettenbach, M. (2006). Ist eine Panne eine Chance für die Automobilindustrie? Value Added Recovery als Instrument zur Steigerung der Kundenzufriedenheit, Wissenschaftliche Arbeitspapiere. Mannheim.

Bauer, M. (2000). Kundenzufriedenheit in industriellen Geschäftsbeziehungen, Wiesbaden.

Bell, C. R.; Zemke, R. E. (1987). Service Breakdown: The Road to Recovery, in: Management Review, Vol. 76, No. 10, pp. 32-35.

Berry, L. L.; Parasuraman, A. (1991). Marketing Services: Competing through Quality, New York.

Bhandari, M. S.; Tsarenko, Y.; Polonsky, M. J. (2007). A Proposed Multi-Dimensional Approach to Evaluating Service Recovery, in: Journal of Services Marketing, Vol. 21, No. 3, pp. 174-185.

Bies, R. J.; Moag, J. S. (1986). Interactional Justice: Communication Criteria of Fairness, in: Lewicki, R. J.; Sheppard, B. H.; Bazerman, B. H. (eds.). Research on Negotiation in Organizations, Greenwich, pp. 43-55.

Bies, R. J.; Shapiro, D. L. (1987). Interactional Fairness Judgments: The Influence of Causal Accounts, in: Social Justice Research, Vol. 1, No. 2, pp. 199-218.

Bitner, M. J.; Booms, B. H.; Tetreault, M. S. (1990). The Service Encounter: Diagnosing Favorable and Unfavorable Incidents, in: Journal of Marketing, Vol. 54, No. 1, pp. 71-84.

Blau, P. M. (1964). Exchange and Power in Social Life, New York.

Blau, P. M. (1968). Interaction: Social Exchange, in: International Encylopedia of the Social Sciences, Vol. 7, No. 1, pp. 452-458.

Blodgett, J. G.; Hill, D. J.; Tax, S. S. (1997). The Effects of Distributive, Procedural, and Interactional Justice on Postcomplaint Behavior, in: Journal of Retailing, Vol. 73, No. 2, pp. 185-210.

Bollen, K. A. (1989). Structural Equations with Latent Variables, New York.

Bollen, K. A.; Lennox, R. (1991). Conventional Wisdom on Measurement: A Structural Equation Perspective, in: Psychological Bulletin, Vol. 110, No. 2, pp. 305-314.

Bolton, R. N. (1993). Pretesting Questionnaires: Content Analyses of Respondents' Concurrent Verbal Protocols, in: Marketing Science, Vol. 12, No. 3, pp. 280-303.

Bolton, R. N. (1998). A Dynamic Model of the Duration of the Customer's Relationship with a Continuous Service Provider: The Role of Satisfaction, in: Marketing Science, Vol. 17, No. 1, pp. 45-65.

Bolton, R. N.; Lemon, K. N.; Verhoef, P. C. (2008). Expanding Business-to-Business Customer Relationships: Modeling the Customer Upgrade Decision, in: Journal of Marketing, Vol. 72, No. 1, pp. 46-64.

Bonifield, C.; Cole, C. A. (2008). Better Him Than Me: Social Comparison Theory and Service Recovery, in: Journal of the Academy of Marketing Science, Vol. 36, No. 4, pp. 565-577.

Boshoff, C. (1997). An Experimental Study of Service Recovery Options, in: International Journal of Service Industry Management, Vol. 8, No. 2, pp. 110-130.

Boshoff, C. (1999). RECOVSAT: An Instrument to Measure Satisfaction With Transaction-Specific Service Recovery, in: Journal of Service Research, Vol. 1, No. 3, pp. 236-249.

Boshoff, C. (2003). Intentions to Buy a Service: The Influence of Service Guarantees, General Information and Price Information in Advertising, in: South African Journal of Business Management, Vol. 34, No. 1, pp. 39-44.

Boshoff, C. (2005). A Re-Assessment and Refinement of RECOVSAT: An Instrument to Measure Satisfaction with Transaction-Specific Service Recovery, in: Managing Service Quality, Vol. 15, No. 5, pp. 410-425.

Boshoff, C. (2012). A Neurophysiological Assessment of Consumers' Emotional Responses to Service Recovery Behaviors: The Impact of Ethnic Group and Gender Similarity, in: Journal of Service Research, Vol. 15, No. 4, pp. 401-413.

Boshoff, C.; Allen, J. (2000). The Influence of Selected Antecedents on Frontline Staff's Perceptions of Service Recovery Performance, in: International Journal of Service Industry Management, Vol. 11, No. 1, pp. 63-90.

Boshoff, C.; Leong, J. (1998). Empowerment, Attribution and Apologising as Dimensions of Service Recovery - An Experimental Study, in: International Journal of Service Industry Management, Vol. 9, No. 1, pp. 24-47.

Bove, L. L.; Johnson, L. W. (2001). Customer Relationships with Service Personnel: Do We Measure Closeness, Quality or Strength?, in: Journal of Business Research, Vol. 54, No. 3, pp. 189-197.

Bowen, D. E.; Lawler, E. E. (1995). Empowering Service Employees, in: Sloan Management Review, Vol. 36, No. 4, pp. 73-84.

Bowman, D.; Narayandas, D. (2004). Linking Customer Management Effort to Customer Profitability in Business Markets, in: Journal of Marketing Research, Vol. 41, No. 4, pp. 433-447.

Bradley, G.; Sparks, B. A. (2012). Explanations: If, When, and How They Aid Service Recovery, in: Journal of Services Marketing, Vol. 26, No. 1, pp. 41-51.

Brennan, R.; Canning, L.; McDowell, R. (2007). Business-to-Business Marketing, 1st ed, London.

Brenner, M.; Brown, J.; Canter, D. (1985). The Research Interview: Uses and Approaches, 1st ed, London.

Brown, R. D.; Hauenstein, N. M. A. (2005). Interrater Agreement Reconsidered: An Alternative to the rwg Indices, in: Organizational Research Methods, Vol. 8, No. 2, pp. 165-184.

Brown, S. W.; Cowles, D. L.; Tuten, T. L. (1996). Service Recovery: Its Value and Limitations as a Retail Strategy, in: International Journal of Service Industry Management, Vol. 7, No. 5, pp. 32-46.

Bruhn, M.; Michalski, S. (2001). Rückgewinnungsmanagement - Eine explorative Studie zum Stand des Rückgewinnungsmanagements bei Banken und Versicherungen, in: Die Unternehmung, Vol. 55, No. 2, pp. 111-125.

Cannon, J. P.; Homburg, C. (2001). Buyer-Supplier Relationships and Customer Firm Costs in: Journal of Marketing, Vol. 65, No. 1, pp. 29-43.

Cannon, J. P.; Perreault, W. D. J. (1999). Buyer-Seller Relationships in Business Markets, in: Journal of Marketing Research, Vol. 36, No. 4, pp. 439-460.

Chandon, P.; Morwitz, V. G.; Reinartz, W. (2005). Do Intentions Really Predict Behavior? Self-Generated Validity Effects in Survey Research, in: Journal of Marketing, Vol. 69, No. 2, pp. 1-14.

Chang, H.-S.; Hsiao, H.-L. (2008). Examining the Casual Relationship among Service Recovery, Perceived Justice, Perceived Risk, and Customer Value in the Hotel Industry, in: The Service Industries Journal, Vol. 28, No. 4, pp. 513-528.

Charmaz, K. (2002). Qualitative Interviewing and Grounded Theory Analysis, in: Gubrium, J. F.; Holstein, J. A. (eds.). Handbook of Interview Research: Context and Method, London, pp. 675-694.

Charmaz, K. (2006). Constructing Grounded Theory: A Practical Guide through Qualitative Analysis, Thousand Oaks.

Chebat, J.-C.; Slusarczyk, W. (2005). How Emotions Mediate the Effects of Perceived Justice on Loyalty in Service Recovery Situations: An Empirical Study, in: Journal of Business Research, Vol. 58, No. 5, pp. 664-673.

Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling, in: Marcoulides, G. A. (ed.). Modern Methods for Business Research, Mahwah, pp. 295-336.

Chin, W. W. (2010). How to Write Up and Report PLS Analyses, in: Esposito Vinzi, V.; Chin, W. W.; Henseler, J.; Wang, H. (eds.). Handbook of Partial Least Squares, Heidelberg, pp. 655-690.

Chin, W. W.; Marcolin, B. L.; Newsted, P. R. (2003). A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects: Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion/Adoption Study, in: Information Systems Research, Vol. 14, No. 2, pp. 189-217.

Chin, W. W.; Newsted, P. R. (1999). Structural Equation Modeling Analysis with Small Samples Using Partial Least Squares, in: Hoyle, R. H. (ed.). Statistical Strategies for Small Sample Research, Thousand Oaks, pp. 307-341.

Churchill, G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs, in: Journal of Marketing Research, Vol. 16, No. 1, pp. 64-73.

Churchill, G. A.; Iacobucci, D. (2000). Marketing Research: Methodological Foundations, 8th ed, Mason.

Churchill, G. A.; Iacobucci, D. (2005). Marketing Research: Methodological Foundations, 9th ed, Mason.

Clark, N.; Mouawad, J. (2010). In Qantas Blowout, Concern for Jet Engine Maker, The New York Times, November, 5th.

Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales, in: Educational and Psychological Measurement, Vol. 20, No. 4, pp. 37-46.

Cohen, J. (1988). Statistical Power Analysis for the Behavioral Sciences, 2nd ed, Hillsdale.

Colgate, M.; Norris, M. (2001). Developing a Comprehensive Picture of Service Failure, in: International Journal of Service Industry Management, Vol. 12, No. 3, pp. 215-233.

Collerton, S. (2010). A380s Drama will give Rolls-Royce a 'Black Eye' [Online]. http://www.abc.net.au/news/2010-11-10/a380s-drama-will-give-rolls-royce-a-black-eye/2331694: ABC News [Accessed March 14th, 2013].

Colquitt, J. A. (2001). On the Dimensionality of Organizational Justice: A Construct Validation of a Measure, in: Journal of Applied Psychology, Vol. 86, No. 3, pp. 386-400.

Cook, K. S.; Parcel, T. L. (1977). Equity Theory: Directions for Future Research, in: Sociological Inquiry, Vol. 47, No. 2, pp. 75-88.

Cook, K. S.; Rice, E. (2006). Social Exchange Theory, in: Delamater, J. (ed.). Handbook of Social Psychology, New York, pp. 53-76.

Cooke, E. F. (1986). What is Business and Industrial Marketing?, in: Journal of Business and Industrial Marketing, Vol. 1, No. 1, pp. 9-17.

Corbin, J. M.; Strauss, A. (1990). Grounded Theory Method: Procedures, Canons, and Evaluative Procedures, in: Qualitative Sociology, Vol. 13, No. 1, pp. 3-21.

Corbin, J. M.; Strauss, A. (2008). Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory, 3rd ed, Thousand Oaks.

Coviello, N. E.; Brodie, R. J. (2001). Contemporary Marketing Practices of Consumer and Business-to-Business Firms: How Different are They?, in: Journal of Business and Industrial Marketing, Vol. 16, No. 5, pp. 382-400.

Craig, C. S.; Douglas, S. P. (2001). Conducting International Marketing Research in the Twenty-First Century, in: International Marketing Review, Vol. 18, No. 1, pp. 80-90.

Craighead, C. W.; Karwan, K. R.; Miller, J. L. (2004). The Effects of Severity of Failure and Customer Loyalty on Service Recovery, in: Production and Operations Management, Vol. 13, No. 4, pp. 307-321.

Cranage, D. A.; Mattila, A. S. (2005). Service Recovery and Pre-Emptive Strategies for Service Failure: Both Lead to Customer Satisfaction and Loyalty, But for Different Reasons, in: Journal of Hospitality and Leisure Marketing, Vol. 13, No. 3-4, pp. 161-181.

Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests, in: Psychometrika, Vol. 16, No. 3, pp. 297-334.

Davidow, M. (2003). Organizational Responses to Customer Complaints: What Works and What Doesn't, in: Journal of Service Research, Vol. 5, No. 3, pp. 225-250.

Day, G. S. (2000). Managing Market Relationships, in: Journal of the Academy of Marketing Science, Vol. 28, No. 1, pp. 24-30.

Decker, R.; Wagner, R. (2008). Fehlende Werte: Ursachen, Konsequenzen und Behandlung, in: Herrmann, A.; Homburg, C.; Klarmann, M. (eds.). Handbuch Marktforschung: Methoden - Anwendungen - Praxisbeispiele, 3rd ed, Wiesbaden, pp. 52-79.

DeJong, A.; DeRuyter, K. (2004). Adaptive versus Proactive Behavior in Service Recovery: The Role of Self-Managing Teams, in: Decision Sciences, Vol. 35, No. 3, pp. 457-491.

DeRuyter, K.; Wetzels, M. (2000). Customer Equity Considerations in Service Recovery: A Cross-Industry Perspective, in: International Journal of Service Industry Management, Vol. 11, No. 1, pp. 91-108.

Deutsch, M. (1975). Equity, Equality and Need: What Determines Which Value Will be Used as the Basis for Distributive Justice?, in: Journal of Social Issues, Vol. 31, No. 3, pp. 137-149.

DeWitt, T.; Brady, M. K. (2003). Rethinking Service Recovery Strategies: The Effect of Rapport on Consumer Responses to Service Failure, in: Journal of Service Research, Vol. 6, No. 2, pp. 193-207.

DeWitt, T.; Nguyen, D. T.; Marshall, R. (2008). Exploring Customer Loyalty Following Service Recovery: The Mediating Effects of Trust and Emotions, in: Journal of Service Research, Vol. 10, No. 3, pp. 269-281.

Diamantopoulos, A. (2006). The Error Term in Formative Measurement Models: Interpretation and Modeling Implications, in: Journal of Modelling in Management, Vol. 1, No. 1, pp. 7-17.

Diamantopoulos, A.; Winklhofer, H. M. (2001). Index Construction with Formative Indicators: An Alternative to Scale Development, in: Journal of Marketing Research, Vol. 38, No. 2, pp. 269-277.

Dillman, D. A.; Eltinge, J. L.; Groves, R. M.; Little, R. J. A. (2002). Survey Non-Response in Design, Data Collection, and Analysis, in: Groves, R. M.; Dillman, D. A.; Eltinge, J. A.; Little, R. J. A. (eds.). Survey NonResponse, New York, pp. 3-26.

Doney, P. M.; Cannon, J. P. (1997). An Examination of the Nature of Trust in Buyer-Seller Relationships, in: Journal of Marketing, Vol. 61, No. 2, pp. 35-51.

Dong, B. B.; Evans, K. R.; Zou, S. M. (2008). The Effects of Customer Participation in Co-Created Service Recovery, in: Journal of the Academy of Marketing Science, Vol. 36, No. 1, pp. 123-137.

Dorsch, M. J.; Swanson, S. R.; Kelley, S. W. (1998). The Role of Relationship Quality in the Stratification of Vendors as Perceived by Customers, in: Journal of the Academy of Marketing Science, Vol. 26, No. 2, pp. 128-142.

Doyle, P. (2000). Value-Based Marketing: Marketing Strategies for Corporate Growth and Shareholder Value, Chichester.

Durvasula, S.; Lysonski, S.; Metha, S. C. (2000). Business-to-Business Marketing: Service Recovery and Customer Satisfaction Issues with Ocean Shipping Lines, in: European Journal of Marketing, Vol. 34, No. 3/4, pp. 433-452.

Dwyer, F. R.; Schurr, P. H.; Oh, S. (1987). Developing Buyer-Seller Relationships, in: Journal of Marketing, Vol. 51, No. 2, pp. 11-27.

Eberl, M. (2006). Formative und reflektive Konstrukte und die Wahl des Strukturgleichungsverfahrens, in: Die Betriebswirtschaft, Vol. 66, No. 6, pp. 651-668.

Edwards, J. R.; Bagozzi, R. P. (2000). On the Nature and Direction of Relationships Between Constructs and Measures, in: Psychological Methods, Vol. 5, No. 2, pp. 155-174.

Eggert, A.; Fassott, G. (2003). Zur Verwendung formativer und reflektiver Indikatoren in Strukturgleichungsmodellen: Ergebnisse einer Metaanalyse und Anwendungsempfehlungen, Kaiserslautern.

Eggert, A.; Fassott, G.; Helm, S. (2005). Identifizierung und Quantifizierung mediierender und moderierender Effekte in komplexen Kausalstrukturen, in: Bliemel, F.; Eggert, A.; Fassott, G.; Henseler, J. (eds.). Handbuch PLS-Pfadmodellierung - Methode, Anwendung, Praxisbeispiele, Stuttgart, pp. 101-116.

Emerson, R. M. (1962). Power-Dependence Relations, in: American Sociological Review, Vol. 27, No. 1, pp. 31-41.

Emerson, R. M. (1976). Social Exchange Theory, in: Annual Review of Sociology, Vol. 2, No. 1, pp. 335-362.

Fang, Z.; Luo, X.; Jiang, M. (2013). Quantifying the Dynamic Effects of Service Recovery on Customer Satisfaction: Evidence From Chinese Mobile Phone Market, in: Journal of Service Research, Vol. 16, No. 3, pp. 1-15.

Fassott, G.; Eggert, A. (2005). Zur Verwendung formativer und reflektiver Indikatoren in Strukturgleichungsmodellen: Bestandsaufnahme und Anwendungsempfehlungen, in: Bliemel, F.; Eggert, A.; Fassott, G.; Henseler, J. (eds.). Handbuch PLS-Pfadmodellierung - Methode, Anwendung, Praxisbeispiele, Stuttgart, pp. 31-47.

Fern, E. F.; Brown, J. R. (1984). The Industrial/Consumer Marketing Dichotomy: A Case of Insufficient Justification, in: Journal of Marketing, Vol. 48, No. 2, pp. 68-77.

Flick, U. (2007a). Designing Qualitative Research, London.

Flick, U. (2007b). Managing Quality in Qualitative Research, London.

Flick, U. (2007c). Qualitative Sozialforschung, Hamburg.

Fornell, C.; Bookstein, F. L. (1982). Two Structural Equation Models: LISREL and PLS Applied to Consumer Exit-Voice Theory, in: Journal of Marketing Research, Vol. 19, No. 4, pp. 440-452.

Fornell, C.; Cha, J. (1994). Partial Least Squares, in: Bagozzi, R. (ed.). Advanced Methods of Marketing Research, Cambridge, pp. 52-78.

Fornell, C.; Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error, in: Journal of Marketing Research, Vol. 18, No. 1, pp. 39-50.

Fornell, C.; Wernerfelt, B. (1988). A Model for Customer Complaint Management, in: Marketing Science, Vol. 7, No. 3, pp. 287-298.

Fürst, A. (2005). Beschwerdemanagement: Gestaltung und Erfolgsaussichten, Wiesbaden.

Ganesan, S. (1994). Determinants of Long-Term Orientation in Buyer-Seller Relationships, in: Journal of Marketing, Vol. 58, No. 2, pp. 1-19.

Garbarino, E.; Johnson, M. S. (1999). The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships, in: Journal of Marketing, Vol. 63, No. 2, pp. 70-87.

Gebauer, H. (2007). An Investigation of Antecedents for the Development of Customer Support Services in Manufacturing Companies, in: Journal of Business-to-Business Marketing, Vol. 14, No. 3, pp. 59-96.

Geyskens, I.; Steenkamp, J.-B. E. M.; Kumar, N. (1999). A Meta-Analysis of Satisfaction in Marketing Channel Relationships, in: Journal of Marketing Research, Vol. 36, No. 2, pp. 223-238.

Glaser, B. G. (1992). Basics of Grounded Theory Analysis, Mill Valley.

Glaser, B. G.; Strauss, A. L. (1967). The Discovery of Grounded Theory: Strategies for Qualitative Research, Chicago.

Gläser, J.; Laudel, G. (2004). Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen, Wiesbaden.

Gold, M. S.; Bentler, P. (2000). Treatments of Missing Data: A Monte Carlo Comparison of RBHDI, Iterative Stochastic Regression Imputation, and Expectation-Maximization, in: Structural Equation Modeling, Vol. 7, No. 3, pp. 319-355.

Gonzalez, G. R.; Hoffman, K. D.; Ingram, T. N. (2005). Improving Relationship Selling through Failure Analysis and Recovery Action: A Framework and Call to Action, in: Journal of Personal Selling and Sales Management, Vol. 25, No. 1, pp. 57-65.

Gonzalez, G. R.; Hoffman, K. D.; Ingram, T. N.; LaForge, R. W. (2010). Sales Organization Recovery Management and Relationship Selling: A Conceptual Model and Empirical Test, in: Journal of Personal Selling and Sales Management, Vol. 30, No. 3, pp. 223-237.

Götz, O.; Liehr-Gobbers, K. (2004). Analyse von Strukturgleichungsmodellen mit Hilfe der Partial-Least-Squares(PLS)-Methode, in: Die Betriebswirtschaft, Vol. 64, No. 6, pp. 714-738.

Goulding, C. (2002). Grounded Theory: A Practical Guide for Management, Business and Market Researchers, London.

Greenberg, J. (1990). Organizational Justice: Yesterday, Today, and Tomorrow, in: Journal of Management, Vol. 16, No. 2, pp. 399-432.

Gremler, D. D.; Gwinner, K. P. (2000). Customer-Employee Rapport in Service Relationships, in: Journal of Service Research, Vol. 3, No. 1, pp. 82-104.

Grewal, D.; Roggeveen, A. L.; Tsiros, M. (2008). The Effect of Compensation on Repurchase Intentions in Service Recovery, in: Journal of Retailing, Vol. 84, No. 4, pp. 424-434.

Grewal, R.; Cote, J. A.; Baumgartner, H. (2004). Multicollinearity and Measurement Error in Structural Equation Models: Implications for Theory Testing, in: Marketing Science, Vol. 23, No. 4, pp. 519-529.

Grönroos, C. (1988). Service Quality: The Six Criteria of Good Perceived Service Quality, in: Review of Business, Vol. 9, No. 4, pp. 10-13.

Gujarati, D. N. (2003). Basic Econometrics, 4th ed, Boston.

Gummesson, E. (2000). Qualitative Methods in Management Research, 2nd ed, London.

Gustafsson, A. (2009). Customer Satisfaction with Service Recovery, in: Journal of Business Research, Vol. 62, No. 11, pp. 1220-1222.

Hair, J. F.; Black, W.; Babin, B.; Anderson, R. E.; Tatham, R. L. (2006). Multivariate Data Analysis, 6th ed, Upper Saddle River.

Hair, J. F.; Ringle, C. M.; Sarstedt, M. (2011). PLS-SEM: Indeed a Silver Bullet, in: Journal of Marketing Theory and Practice, Vol. 19, No. 2, pp. 139-152.

Hair, J. F.; Sarstedt, M.; Ringle, C. M.; Mena, J. A. (2012). An Assessment of the Use of Partial Least Squares Structural Equation Modeling in Marketing Research, in: Journal of the Academy of Marketing Science, Vol. 40, No. 3, pp. 414-433.

Håkansson, H.; Snehota, I. J. (2000). The IMP Perspective: Assets and Liabilities of Business Relationships, in: Sheth, J. N.; Parvatiyar, A. (eds.). Handbook of Relationship Marketing, Thousand Oaks, pp. 69-93.

Hansen, S. W.; Powers, T. L.; Swan, J. E. (1997). Modeling Industrial Buyer Complaints: Implications for Satisfying and Saving Customers, in: Journal of Marketing Theory and Practice, Vol. 5, No. 4, pp. 12-22.

Harris, K. E.; Grewal, D.; Mohr, L. A.; Bernhardt, K. L. (2006). Consumer Responses to Service Recovery Strategies: The Moderating Role of Online versus Offline Environment, in: Journal of Business Research, Vol. 59, No. 4, pp. 425-431.

Harrison, D. A.; McLaughlin, M. E.; Coalter, T. M. (1996). Context, Cognition, and Common Method Variance: Psychometric and Verbal Protocol Evidence, in: Organizational Behavior and Human Decision Processes, Vol. 68, No. 3, pp. 246-261.

Hart, C. W. L.; Heskett, J. L.; Sasser, W. E. J. (1990). The Profitable Art of Service Recovery, in: Harvard Business Review, Vol. 68, No. 4, pp. 148-156.

Henseler, J.; Ringle, C. M.; Sinkovics, R. R. (2009). The Use of Partial Least Squares Path Modeling in International Marketing, in: Advances in International Marketing, Vol. 20, No. 1, pp. 277–319.

Hess, R. L.; Ganesan, S.; Klein, N. M. (2003). Service Failure and Recovery: The Impact of Relationship Factors on Customer Satisfaction, in: Journal of the Academy of Marketing Science, Vol. 31, No. 2, pp. 127-145.

Hocutt, M. A.; Bowers, M. R.; Donavan, D. T. (2006). The Art of Service Recovery: Fact or Fiction?, in: Journal of Services Marketing, Vol. 20, No. 3, pp. 199-207.

Hocutt, M. A.; Charkraborty, G.; Mowen, J. C. (1997). The Impact of Perceived Justice on Customer Satisfaction and Intention to Complain in a Service Recovery, in: Advances in Consumer Research, Vol. 24, No. 1, pp. 457-463.

Hocutt, M. A.; Stone, T. H. (1998). The Impact of Employee Empowerment on the Quality of Service Recovery Effort, in: Journal of Quality Management, Vol. 3, No. 1, pp. 117-132.

Hoffman, K. D.; Kelley, S. W. (2000). Perceived Justice Needs and Recovery Evaluation: A Contigency Approach, in: European Journal of Marketing, Vol. 34, No. 3/4, pp. 418-432.

Hoffman, K. D.; Kelley, S. W.; Rotalsky, H. M. (1995). Tracking Service Failures and Employee Recovery Efforts, in: Journal of Services Marketing, Vol. 9, No. 2, pp. 49-61.

Hofstede, G. (2001). Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations, Thousand Oaks.

Hogreve, J.; Gremler, D. D. (2009). Twenty Years of Service Guarantee Research: A Synthesis, in: Journal of Service Research, Vol. 11, No. 4, pp. 322-343.

Holloway, B. B.; Beatty, S. E. (2003). Service Failure in Online Retailing: A Recovery Opportunity, in: Journal of Service Research, Vol. 6, No. 1, pp. 92-105.

Holloway, B. B.; Wang, S.; Beatty, S. E. (2009). Betrayal? Relationship Quality Implications in Service Recovery, in: Journal of Services Marketing, Vol. 23, No. 6, pp. 385-396.

Holmlund, M. (2008). A Definition, Model, and Empirical Analysis of Business-to-Business Relationship Quality, in: International Journal of Service Industry Management, Vol. 19, No. 1, pp. 32-62.

Homans, G. C. (1958). Social Behavior as Exchange, in: American Journal of Sociology, Vol. 63, No. 6, pp. 597-606.

Homans, G. C. (1961). Social Behavior: Its Elementary Forms, London.

Homburg, C.; Fürst, A. (2005). How Organizational Complaint Handling Drives Customer Loyalty: An Analysis of the Mechanistic and the Organic Approach, in: Journal of Marketing, Vol. 69, No. 3, pp. 95-114.

Homburg, C.; Fürst, A.; Koschate, N. (2010). On the Importance of Complaint Handling Design: A Multi-Level Analysis of the Impact in Specific Complaint Situations, in: Journal of the Academy of Marketing Science, Vol. 38, No. 3, pp. 265-287.

Homburg, C.; Giering, A. (1996). Konzeptualisierung und Operationalisierung komplexer Konstrukte - Ein Leitfaden für die Marketingforschung, in: Marketing - Zeitschrift für Forschung und Praxis, Vol. 18, No. 1, pp. 5-24.

Homburg, C.; Giering, A.; Menon, A. (2003). Relationship Characteristics as Moderators of the Satisfaction-Loyalty Link: Findings in a Business-to-Business Context, in: Journal of Business-to-Business Marketing, Vol. 10, No. 3, pp. 35-63.

Homburg, C.; Herrmann, A.; Pflesser, C.; Klarmann, M. (2008). Methoden der Datenanalyse im Überblick, in: Herrmann, A.; Homburg, C.; Klarmann, M. (eds.). Handbuch Marktforschung: Methoden - Anwendungen - Praxisbeispiele, 3rd ed, Wiesbaden, pp. 151-173.

Homburg, C.; Klarmann, M. (2006). Die Kausalanalyse in der empirischen und betriebswirtschaftlichen Forschung - Problemfelder und Anwendungsempfehlungen, Wissenschaftliche Arbeitspapiere. Mannheim.

Homburg, C.; Klarmann, M. (2009). Multi Informant-Designs in der empirischen betriebswirtschaftlichen Forschung, in: Die Betriebswirtschaft, Vol. 69, No. 2, pp. 147-171.

Homburg, C.; Klarmann, M.; Pflesser, C. (2008). Konfirmatorische Faktorenanalyse, in: Herrmann, A.; Homburg, C.; Klarmann, M. (eds.). Handbuch Marktforschung: Methoden - Anwendungen - Praxisbeispiele, 3rd ed, Wiesbaden, pp. 271-303.

Homburg, C.; Koschate, N.; Hoyer, W. D. (2005). Do Satisfied Customers Really Pay More? A Study of the Relationship Between Customer Satisfaction and Willingness to Pay, in: Journal of Marketing, Vol. 69, No. 2, pp. 84-96.

Homburg, C.; Krohmer, H. (2008). Der Prozess der Marktforschung: Festlegung der Datenerhebungsmethode, Stichprobenbildung und Fragebogengestaltung, in: Herrmann, A.; Homburg, C.; Klarmann, M. (eds.). Handbuch Marktforschung: Methoden - Anwendungen - Praxisbeispiele, 3rd ed, Wiesbaden, pp. 23-51.

Homburg, C.; Pflesser, C.; Klarmann, M. (2008). Strukturgleichungsmodelle mit latenten Variablen: Kausalanalyse, in: Herrmann, A.; Homburg, C.; Klarmann, M. (eds.). Handbuch Marktforschung: Methoden - Anwendungen - Praxisbeispiele, 3rd ed, Wiesbaden, pp. 547-577.

Homburg, C.; Rudolph, B. (2001). Customer Satisfaction in Industrial Markets: Dimensional and Multiple Role Issues, in: Journal of Business Research, Vol. 52, No. 1, pp. 15-33.

Homburg, C.; Schäfer, H. (1999). Customer Recovery - Profitabilität durch systematische Rückgewinnung von Kunden, Wissenschaftliche Arbeitspapiere. Mannheim.

Homburg, C.; Schilke, O.; Reimann, M. (2009). Triangulation von Umfragedaten in der Marketing- und Managementforschung, in: Die Betriebswirtschaft, Vol. 69, No. 2, pp. 173-193.

Homburg, C.; Wieseke, J.; Bornemann, T. (2009). Implementing the Marketing Concept at the Employee–Customer Interface: The Role of Customer Need Knowledge, in: Journal of Marketing, Vol. 73, No. 4, pp. 64-81.

Homburg, C.; Wieseke, J.; Hoyer, W. D. (2009). Social Identity and the Service-Profit Chain, in: Journal of Marketing, Vol. 73, No. 2, pp. 38-54.

Huang, M.-H. (2011). Re-Examining the Effect of Service Recovery: The Moderating Role of Brand Equity, in: Journal of Services Marketing, Vol. 25, No. 7, pp. 509-516.

Huber, F.; Herrmann, A.; Meyer, F.; Vogel, J.; Vollhardt, K. (2007). Kausalmodellierung mit Partial Least Squares: Eine anwendungsorientierte Einführung, Wiesbaden.

Hulland, J. (1999). Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies, in: Strategic Management Journal, Vol. 20, No. 2, pp. 195-204.

Hunt, S. D.; Sparkman, R. D.; Wilcox, J. B. (1982). The Pretest in Survey Research: Issues and Preliminary Findings, in: Journal of Marketing Research, Vol. 19, No. 2, pp. 269-273.

Huntley, J. K. (2006). Conceptualization and Measurement of Relationship Quality: Linking Relationship Quality to Actual Sales and Recommendation Intentions, in: Industrial Marketing Management, Vol. 35, No. 6, pp. 703-714.

Huppertz, J. W.; Arenson, S. J.; Evans, R. H. (1978). An Application of Equity Theory to Buyer-Seller Exchange Situations, in: Journal of Marketing Research, Vol. 15, No. 2, pp. 250-260.

Hurrle, B.; Kieser, A. (2005). Sind Key Informants verlässliche Datenlieferanten?, in: Die Betriebswirtschaft, Vol. 65, No. 6, pp. 584-602.

Hutt, M. D.; Speh, T. W. (2004). Business Marketing Management - A Strategic View of Industrial and Organizational Markets, Mason.

Ivens, B. (2004). Industrial Sellers' Relational Behavior: Relational Styles and Their Impact on Relationship Quality, in: Journal of Relationship Marketing, Vol. 3, No. 4, pp. 27-43.

Jacobs, F. A.; Johnston, W.; Kotchetova, N. (2001). Customer Profitability: Prospective vs. Retrospective Approaches in a Business-to-Business Setting, in: Industrial Marketing Management, Vol. 30, No. 4, pp. 353-363.

Jarvis, C. B.; MacKenzie, S. B.; Podsakoff, P. M. (2003). A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research, in: Journal of Consumer Research, Vol. 30, No. 2, pp. 199-218.

Johnson, J. M. (2002). In-Depth Interviewing, in: Gubrium, J. F.; Holstein, J. A. (eds.). Handbook of Interview Research: Context and Method, London, pp. 103-120.

Johnston, R. (1995). Service Failure and Recovery: Impact, Attributes, and Processes, in: Swartz, T.; Bowen, D. E.; Brown, S. W. (eds.). Advances in Services Marketing and Management: Research and Practice, Greenwich, pp. 211-228.

Johnston, R. (2001). Linking Complaint Management to Profit, in: International Journal of the Service Industry Management, Vol. 12, No. 1, pp. 60-69.

Johnston, R.; Fern, A. (1999). Service Recovery Strategies for Single and Double Deviation Scenarios, in: Service Industries Journal, Vol. 19, No. 2, pp. 69-82.

Johnston, R.; Michel, S. (2008). Three Outcomes of Service Recovery: Customer Recovery, Process Recovery and Employee Recovery, in: International Journal of Operations and Production Management, Vol. 28, No. 1, pp. 79-99.

Johnston, T. C.; Hewa, M. A. (1997). Fixing Service Failures, in: Industrial Marketing Management, Vol. 26, No. 5, pp. 467-473.

Karande, K.; Magnini, V. P.; Tam, L. (2007). Recovery Voice and Satisfaction After Service Failure: An Experimental Investigation of Mediating and Moderating Factors, in: Journal of Service Research, Vol. 10, No. 2, pp. 187-203.

Kau, A.-K.; Loh, E. W.-Y. (2006). The Effects of Service Recovery on Consumer Satisfaction: A Comparison Between Complainants and Non-Complainants, in: Journal of Services Marketing, Vol. 20, No. 2, pp. 101-111.

Kelle, U. (2007). Theoretisches Vorwissen und Kategorienbildung in der „Grounded Theory", in: Kuckartz, U. (ed.). Qualitative Datenanalyse: Computergestützt, Wiesbaden, pp. 32-49.

Kelley, H. H.; Thibaut, J. W. (1978). Interpersonal Relations: A Theory of Interdependence, New York.

Kelley, S. W.; Davis, M. A. (1994). Antecedents to Customer Expectations for Service Recovery, in: Journal of the Academy of Marketing Science, Vol. 22, No. 1, pp. 52-61.

Kelley, S. W.; Hoffman, K. D.; Davis, M. A. (1993). A Typology of Retail Failures and Recoveries, in: Journal of Retailing, Vol. 69, No. 4, pp. 429-452.

Kim, N.; Ulgado, F. M. (2012). The Effect of On-The-Spot versus Delayed Compensation: The Moderating Role of Failure Severity, in: Journal of Services Marketing, Vol. 26, No. 3, pp. 158-167.

Klarmann, M. (2008). Methodische Problemfelder der Erfolgsfaktorenforschung: Bestandsaufnahme und empirische Analysen, Wiesbaden.

Kleinaltenkamp, M. (2000). Einführung in das Business-to-Business Marketing, in: Kleinaltenkamp, M.; Plinke, W. (eds.). Technischer Vertrieb: Grundlagen des Business-to-Business Marketing, 2nd ed, Berlin, pp. 171-248.

Krafft, M.; Götz, O.; Liehr-Gobbers, K. (2005). Die Validierung von Strukturgleichungsmodellen mit Hilfe des Partial-Least-Squares (PLS)-Ansatzes, in: Bliemel, F.; Eggert, A.; Fassott, G.; Henseler, J. (eds.). Handbuch PLS-Pfadmodellierung - Methode, Anwendung, Praxisbeispiele, Stuttgart, pp. 71-86.

Kuckartz, U. (2007a). Einführung in die computergestütze Analyse qualitativer Daten, 2 ed, Wiesbaden.

Kuckartz, U. (2007b). Computergestützte Analyse qualitativer Daten, in: Buber, R.; Holzmüller, H. H. (eds.). Qualitative Marktforschung: Konzepte - Methoden - Analysen, Wiesbaden, pp. 713-730.

Kumar, N.; Stern, L. W.; Anderson, J. C. (1993). Conducting Interorganizational Research Using Key Informants, in: Academy of Management Journal, Vol. 36, No. 6, pp. 1633-1651.

Kvale, S. (1996). InterViews: An Introduction to Qualitative Research Interviewing, Thousand Oaks.

Kvale, S. (2007a). Dominance Through Interviews and Dialogues, in: Bryman, A. (ed.). Qualitative Research 2 - Sage Benchmarks in Social Science Research Methods, 1st ed, London, pp. 44-63.

Kvale, S. (2007b). Doing Interviews, London.

La, K. V.; Kadampully, J. (2004). Market Oriented Learning and Customer Value Enhancement Through Service Recovery Management, in: Managing Service Quality, Vol. 14, No. 5, pp. 390-401.

La, S.; Choi, B. (2012). The Role of Customer Affection and Trust in Loyalty Rebuilding After Service Failure and Recovery, in: The Service Industries Journal, Vol. 32, No. 1, pp. 105-125.

Lages, L. F.; Lancastre, A.; Lages, C. (2008). The B2B-RELPERF Scale and Scorecard: Bringing Relationship Marketing Theory into Business-to-Business Practice, in: Industrial Marketing Management, Vol. 37, No. 6, pp. 686–697.

Lambe, C. J.; Wittmann, C. M.; Spekman, R. E. (2001). Social Exchange Theory and Research on Business-to-Business Relational Exchange, in: Journal of Business-to-Business Marketing, Vol. 8, No. 3, pp. 1-36.

Lehmann, D. R. (2004). Metrics for Making Marketing Matter, in: Journal of Marketing, Vol. 68, No. 4, pp. 73-75.

Leventhal, G. S. (1976a). The Distribution of Rewards and Resources in Groups and Organizations, in: Walster, E.; Berscheid, E.; Walster, G. W. (eds.). Equity Theory: Towards a General Theory of Social Interaction, New York, pp. 91-131.

Leventhal, G. S. (1976b). Fairness in Social Relationships, in: Thibaut, J. W.; Spence, J. T.; Carson, R. C.; Williams, B. J. (eds.). Contemporary Topics in Social Psychology, Morristown, pp. 211-239.

Leventhal, G. S. (1980). What Should Be Done with Equity Theory? New Approaches to the Study of Fairness in Social Relationships, in: Gergen, K. J.; Greenberg, M. S.; Willis, R. H. (eds.). Social Exchange: Advances in Theory and Research, New York, pp. 27-55.

Lidén, S. B.; Skålén, P. (2003). The Effect of Service Guarantees on Service Recovery, in: International Journal of Service Industry Management, Vol. 14, No. 1, pp. 36-58.

Lilien, G. L. (1987). Business Marketing: Present and Future, in: Industrial Marketing and Purchasing, Vol. 2, No. 3, pp. 3-21.

Lin, H.-H.; Wang, Y.-S.; Chang, L.-K. (2011). Consumer Responses to Online Retailer's Service Recovery After a Service Failure: A Perspective of Justice Theory, in: Managing Service Quality, Vol. 21, No. 5, pp. 511-534.

Lin, W.-B. (2006). Correlation Between Personality Characteristics, Situations of Service Failure, Customer Relation Strength and Remedial Recovery Strategy, in: Services Marketing Quarterly, Vol. 28, No. 1, pp. 55-88.

Lin, W.-B. (2009). Exploration of Lead Factors Affecting Service Recovery, in: The Service Industries Journal, Vol. 29, No. 11, pp. 1529-1546.

Lin, W.-B. (2010). Relevant Factors That Affect Service Recovery Performance, in: The Service Industries Journal, Vol. 30, No. 6, pp. 891-910.

Lind, E. A.; Tyler, T. R. (1988). The Social Psychology of Procedural Justice, New York.

Little, T. D.; Cunningham, W. A.; Shahar, G.; Widaman, K. F. (2002). To Parcel or Not to Parcel: Exploring the Question, Weighing the Merits, in: Structural Equation Modeling, Vol. 9, No. 2, pp. 151-173.

Lockshin, L.; McDougall, G. (1998). Service Problems and Recovery Strategies: An Examination of the Critical Incident Technique in a Business-to-Business Market, in: International Journal of Retail and Distribution Management, Vol. 26, No. 11, pp. 429-438.

Lofland, J.; Lofland, L. H.; Snow, D.; Anderson, L. (2006). Analyzing Social Settings: A Guide to Qualitative Observation and Analysis, 4th ed, Belmont.

Lohmöller, J.-B. (1989). Latent Variable Path Modeling with Partial Least Squares, Heidelberg.

Magnini, V. P.; Ford, J. B.; Markowski, E. P.; Honeycutt, E. D. (2007). The Service Recovery Paradox: Justifiable Theory or Smoldering Myth?, in: Journal of Services Marketing, Vol. 21, No. 3, pp. 213-225.

Mattila, A. S. (2001a). The Effectiveness of Service Recovery in a Multi-Industry Setting, in: Journal of Services Marketing, Vol. 15, No. 7, pp. 583-596.

Mattila, A. S. (2001b). The Impact of Relationship Type on Customer Loyalty in a Context of Service Failures, in: Journal of Service Research, Vol. 4, No. 2, pp. 91-101.

Mattila, A. S. (2004). The Impact of Service Failures on Customer Loyalty: The Moderating Role of Affective Commitment, in: International Journal of Service Industry Management, Vol. 15, No. 2, pp. 134-149.

Mattila, A. S.; Patterson, P. G. (2004). Service Recovery and Fairness Perceptions in Collectivist and Individualist Contexts, in: Journal of Service Research, Vol. 6, No. 4, pp. 336-346.

Maxham, J. G. (2001). Service Recovery's Influence on Consumer Satisfaction, Positive Word-of-Mouth, and Purchase Intentions, in: Journal of Business Research, Vol. 54, No. 1, pp. 11-24.

Maxham, J. G.; Netemeyer, R. G. (2002a). A Longitudinal Study of Complaining Customers' Evaluations of Multiple Service Failures and Recovery Efforts, in: Journal of Marketing, Vol. 66, No. 4, pp. 57-71.

Maxham, J. G.; Netemeyer, R. G. (2002b). Modeling Customer Perceptions of Complaint Handling Over Time: The Effects of Perceived Justice on Satisfaction and Intent, in: Journal of Retailing, Vol. 78, No. 4, pp. 239-252.

Maxham, J. G.; Netemeyer, R. G. (2003). Firms Reap What They Sow: The Effects of Shared Values and Perceived Organizational Justice on Customers' Evaluations of Complaint Handling, in: Journal of Marketing, Vol. 67, No. 1, pp. 46-62.

McColl-Kennedy, J. R.; Daus, C. S.; Sparks, B. A. (2003). The Role of Gender in Reactions to Service Failure and Recovery, in: Journal of Service Research, Vol. 6, No. 1, pp. 66-82.

McColl-Kennedy, J. R.; Sparks, B. A. (2003). Application of Fairness Theory to Service Failures and Service Recovery, in: Journal of Service Research, Vol. 5 No. 3, pp. 251-266.

McCollough, M. A.; Berry, L. L.; Yadav, M. S. (2000). An Empirical Investigation of Customer Satisfaction After Service Failure and Recovery, in: Journal of Service Research, Vol. 3, No. 2, pp. 121-137.

McCollough, M. A.; Bharadwaj, S. G. (1992). The Recovery Paradox: An Examination of Consumer Satisfaction in Relation to Disconfirmation, Service Quality, and Attribution Based Theories, in: Allen, C. T.; Madden, T. J.; Shimp, T. A.; Howell, R. D.; Zinkham, G. M.; Heisley, D. D.; Semenik, R. J.; Dickson, P.; Zeithaml, V.; Jenkins, R. L. (eds.). Marketing Theory and Applications, Chicago, pp. 119-129.

Michaels, D.; Pasztor, A. (2010). Rolls Draws Flak for Quiet on Engine Fire, The Wall Street Journal, November 10th.

Michel, S. (2001). Analysing Service Failures and Recoveries: A Process Approach, in: International Journal of Service Industry Management, Vol. 12, No. 1, pp. 20-33.

Michel, S.; Bowen, D. E.; Johnston, R. (2009). Why Service Recovery Fails: Tensions Among Customer, Employee, and Process Perspectives, in: Journal of Service Management, Vol. 20, No. 3, pp. 253-273.

Miles, M. B.; Huberman, A. M. (1994). Qualitative Data Analysis: An Expanded Sourcebook, Thousand Oaks.

Miller, J. L.; Craighead, C. W.; Karwan, K. R. (2000). Service Recovery: A Framework and Empirical Investigation, in: Journal of Operations Management, Vol. 18, No. 4, pp. 387-400.

Morgan, R. M.; Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing, in: Journal of Marketing, Vol. 58, No. 2, pp. 20-38.

Morrisson, O.; Huppertz, J. W. (2010). External Equity, Loyalty Program Membership, and Service Recovery, in: Journal of Services Marketing, Vol. 24, No. 3, pp. 244-254.

Mouawad, J. (2010). Jet Engine Failure Causes Worry on Manufacturer, The New York Times, November 4th.

Mustoe, H.; Rothman, A. (2010). Airbus, Rolls-Royce Riled by A380 Engine Blowout [Online]. http://www.bloomberg.com/news/2010-11-12/rolls-to-miss-profit-goal-on-costs-to-rectify-engine-failure.html. [Accessed March 13th, 2013].

Narayandas, D. (2005). Building Loyalty in Business Markets, in: Harvard Business Review, Vol. 83, No. 9, pp. 131-139.

Narayandas, D.; Kasturi Rangan, V. (2004). Building and Sustaining Buyer-Seller Relationships in Mature Industrial Markets, in: Journal of Marketing, Vol. 68, No. 3, pp. 63-77.

Nguyen, D. T.; McColl-Kennedy, J. R.; Dagger, T. S. (2012). Matching Service Recovery Solutions to Customer Recovery Preferences, in: European Journal of Marketing, Vol. 46, No. 9, pp. 1171-1194.

Nunnally, J. C. (1978). Psychometric Theory, New York.

Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions, in: Journal of Marketing Research, Vol. 17, No. 4, pp. 460-469.

Oliver, R. L. (1997). Satisfaction: A Behavioral Perspective on the Consumer, New York.

Oliver, R. L.; DeSarbo, W. S. (1988). Response Determinants in Satisfaction Judgments, in: Journal of Consumer Research, Vol. 14, No. 4, pp. 495-507.

Oliver, R. L.; Swan, J. E. (1989). Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach, in: Journal of Marketing, Vol. 53, No. 2, pp. 21-35.

Olsen, L. L.; Johnson, M. D. (2003). Service Equity, Satisfaction, and Loyalty: From Transaction-Specific to Cumulative Evaluations, in: Journal of Service Research, Vol. 5, No. 3, pp. 184-195.

Palmatier, R. W.; Dant, R. P.; Grewal, D.; Evans, K. R. (2006). Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis, in: Journal of Marketing, Vol. 70, No. 4, pp. 136-153.

Palmatier, R. W.; Gopalakrishna, S.; Houston, M. B. (2006). Returns on Business-to-Business Relationship Marketing Investments: Strategies for Leveraging Profits, in: Marketing Science, Vol. 25, No. 5, pp. 477-493.

Palmatier, R. W.; Scheer, L. K.; Houston, M. B.; Evans, K. R.; Gopalakrishna, S. (2007). Use of Relationship Marketing Programs in Building Customer-Salesperson and Customer-Firm Relationships: Differential Influences on Financial Outcomes, in: International Journal of Research in Marketing, Vol. 24, No. 3, pp. 210-223.

Parasuraman, A. (1998). Customer Service in Business-to-Business Markets: An Agenda for Research, in: Journal of Business and Industrial Marketing, Vol. 13, No. 4/5, pp. 309-321.

Parasuraman, A. (2006). Modeling Opportunities in Service Recovery and Customer-Managed Interactions, in: Marketing Science, Vol. 25, No. 6, pp. 590-593.

Peter, J. P.; Churchill, G. A. (1986). Relationships Among Research Design Choices and Psychometric Properties of Rating Scales: A Meta-Analysis, in: Journal of Marketing Research, Vol. 23, No. 1, pp. 1-10.

Phillips, L. W. (1981). Assessing Measurement Error in Key Informant Reports: A Methodological Note on Organizational Analysis in Marketing, in: Journal of Marketing Research, Vol. 18, No. 4, pp. 395-415.

Pihlström, M.; Brush, G. J. (2008). Comparing the Perceived Value of Information and Entertainment Mobile Services, in: Psychology and Marketing, Vol. 25, No. 8, pp. 732-755.

Podsakoff, P. M.; MacKenzie, S. B.; Lee, J.-Y.; Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies, in: Journal of Applied Psychology, Vol. 88, No. 5, pp. 879-903.

Poland, B. D. (2002). Transcription Quality, in: Gubrium, J. F.; Holstein, J. A. (eds.). Handbook of Interview Research: Context and Method, London, pp. 629-650.

Priluck, R. (2003). Relationship Marketing Can Mitigate Product and Service Failures, in: Journal of Services Marketing, Vol. 17, No. 1, pp. 37-52.

Priluck, R.; Lala, V. (2009). The Impact of the Recovery Paradox on Retailer-Customer Relationships, in: Managing Service Quality, Vol. 19, No. 1, pp. 42-59.

Reichheld, F. F. (1996). Learning from Customer Defections, in: Harvard Business Review, Vol. 74, No. 2, pp. 56-69.

Reinartz, W.; Hänlein, M.; Henseler, J. (2009). An Empirical Comparison of the Efficacy of Covariance-Based and Variance-Based SEM, in: International Journal of Research in Marketing, Vol. 26, No. 4, pp. 332-344.

Reynolds, K. L.; Harris, L. C. (2005). When Service Failure is not Service Failure: An Exploration of the Forms and Motives of "Illegitimate" Customer Complaining, in: Journal of Services Marketing, Vol. 19, No. 5, pp. 321-335.

Ringberg, T.; Odekerken-Schröder, G.; Christensen, G. L. (2007). A Cultural Models Approach to Service Recovery, in: Journal of Marketing, Vol. 71, No. 3, pp. 194-214.

Ringle, C. M.; Spreen, F. (2007). Beurteilung der Ergebnisse von PLS-Pfadanalysen, in: WISU - Das Wirtschaftsstudium, Vol. 36, No. 2, pp. 211-216.

Ringle, C. M.; Wende, S.; Will, A. (2005). SmartPLS 2.0 (beta), Hamburg.

Roberts, K.; Varki, S.; Brodie, R. (2003). Measuring the Quality of Relationships in Consumer Services: An Empirical Study, in: European Journal of Marketing, Vol. 37, No. 1/2, pp. 169-196.

Robinson, L.; Neeley, S. E.; Williamson, K. (2011). Implementing Service Recovery Through Customer Relationship Management: Identifying the Antecedents, in: Journal of Services Marketing, Vol. 25, No. 2, pp. 90-100.

Roggeveen, A.; Tsiros, M.; Grewal, D. (2012). Understanding the Co-Creation Effect: When Does Collaborating with Customers Provide a Lift to Service Recovery?, in: Journal of the Academy of Marketing Science, Vol. 40, No. 6, pp. 771-790.

Rossiter, J. R. (2002). The C-OAR-SE Procedure for Scale Development in Marketing, in: International Journal of Research in Marketing, Vol. 19, No. 4, pp. 305-335.

Roulston, K.; DeMarrais, K.; Lewis, J. B. (2007). Learning to Interview in the Social Sciences, in: Bryman, A. (ed.). Qualitative Research 2 - Sage Benchmarks in Social Science Research Methods, 1st ed, London, pp. 3-30.

Sajtos, L.; Brodie, R. J.; Whittome, J. (2010). Impact of Service Failure: The Protective Layer of Customer Relationships, in: Journal of Service Research, Vol. 13, No. 2, pp. 216-229.

Salo, A.; Tähtinen, J.; Ulkuniemi, P. (2009). Twists and Turns of Triadic Business Relationship Recovery, in: Industrial Marketing Management, Vol. 38, No. 6, pp. 618-632.

Seale, C. F. (2002). Computer-Assisted Analysis of Qualitative Interview Data, in: Gubrium, J. F.; Holstein, J. A. (eds.). Handbook of Interview Research: Context and Method, London, pp. 651-670.

Selnes, F. (1998). Antecedents and Consequences of Trust and Satisfaction in Buyer-Seller Relationships, in: European Journal of Marketing, Vol. 32, No. 3/4, pp. 305-322.

Shapiro, T.; Nieman-Gonder, J. (2006). Effect of Communication Mode in Justice-Based Service Recovery, in: Managing Service Quality, Vol. 16, No. 2, pp. 124-144.

Sheth, J. N.; Sharma, A. (2006). The Surpluses and Shortages in Business-to-Business Marketing Theory and Research, in: Journal of Business and Industrial Marketing, Vol. 21, No. 7, pp. 422-427.

Silverman, D. (2005). Doing Qualitative Research, 2nd ed, London.

Sim, K. L.; Song, C. J.; Killough, L. N. (2010). Service Quality, Service Recovery, and Financial Performance: An Analysis of the US Airline Industry, in: Epstein, M.; Lee, J. S. (eds.). Advances in Management Accounting, Amsterdam, pp. 27-53.

Simons, J. V.; Kraus, M. E. (2005). An Analytical Approach for Allocating Service Recovery Efforts to Reduce Internal Failures, in: Journal of Service Research, Vol. 7, No. 3, pp. 277-289.

Singh, J. (2000). Performance Productivity and Quality of Frontline Employees in Service Organizations, in: Journal of Marketing, Vol. 64, No. 2, pp. 15-34.

Singh, J.; Sirdeshmukh, D. (2000). Agency and Trust Mechanisms in Consumer Satisfaction and Loyalty Judgments, in: Journal of the Academy of Marketing Science, Vol. 28, No. 1, pp. 150-167.

Smith, A. K.; Bolton, R. N. (1998). An Experimental Investigation of Customer Reactions to Service Failure and Recovery Encounters: Paradox or Peril?, in: Journal of Service Research, Vol. 1, No. 1, pp. 65-81.

Smith, A. K.; Bolton, R. N. (2002). The Effect of Customers' Emotional Responses to Service Failures on Their Recovery Effort Evaluations and Satisfaction Judgments, in: Journal of the Academy of Marketing Science, Vol. 30, No. 1, pp. 5-23.

Smith, A. K.; Bolton, R. N.; Wagner, J. (1999). A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery, in: Journal of Marketing Research, Vol. 36, No. 3, pp. 356-372.

Smith, J. S.; Fox, G. L.; Ramirez, E. (2010). An Integrated Perspective of Service Recovery: A Sociotechnical Systems Approach, in: Journal of Service Research, Vol. 13, No. 4, pp. 439-452.

Smith, J. S.; Karwan, K. R. (2010). Empirical Profiles of Service Recovery Systems: The Maturity Perspective, in: Journal of Service Research, Vol. 13, No. 1, pp. 111-125.

Smith, J. S.; Karwan, K. R.; Markland, R. E. (2009). An Empirical Examination of the Structural Dimensions of the Service Recovery System, in: Decision Sciences, Vol. 40, No. 1, pp. 165-186.

Sparks, B. A.; McColl-Kennedy, J. R. (2001). Justice Strategy Options for Increased Customer Satisfaction in a Services Recovery Setting, in: Journal of Business Research, Vol. 54, No. 3, pp. 209-218.

Spreng, R. A.; Harrell, G. D.; Mackoy, R. D. (1995). Service Recovery: Impact on Satisfaction and Intentions, in: Journal of Services Marketing, Vol. 9, No. 1, pp. 15-23.

Srivastava, R. K.; Shervani, T. A.; Fahey, L. (1999). Marketing, Business Processes, and Shareholder Value: An Organizationally Embedded View of Marketing Activities and the Discipline of Marketing, in: Journal of Marketing, Vol. 63, No. 4, pp. 168-179.

Stauss, B.; Schöler, A. (2004). Complaint Management Profitability: What Do Complaint Managers Know?, in: Managing Service Quality, Vol. 14, No. 2/3, pp. 147-156.

Steenkamp, J.-B. E.; Baumgartner, H. (2000). On the Use of Structural Equation Models for Marketing Modeling, in: International Journal of Research in Marketing, Vol. 17, No. 2, pp. 195-202.

Stock, R. M. (2005). Can Customer Satisfaction Decrease Price Sensitivity in Business-to-Business Markets?, in: Journal of Business-to-Business Marketing, Vol. 12, No. 3, pp. 59-87.

Stoner, J. A.; Freeman, R. E. (1989). Management, 4th ed, Englewood Cliffs.

Storbacka, K.; Strandvik, T.; Grönroos, C. (1994). Managing Customer Relationships for Profit: The Dynamics of Relationship Quality, in: International Journal of Service Industry Management, Vol. 5, No. 5, pp. 21-38.

Strandvik, T.; Holmlund, M. (2008). How to Diagnose Business-to-Business Relationships by Mapping Negative Incidents, in: Journal of Marketing Management, Vol. 24, No. 3/4, pp. 361-381.

Strauss, A. L.; Corbin, J. M. (1990). Basics of Qualitative Research: Grounded Theory Procedures and Techniques, Newbury Park.

Svari, S.; Slåtten, T.; Svensson, G.; Edvardsson, B. (2011). A SOS Construct of Negative Emotions in Customers' Service Experience (CSE) and Service Recovery by Firms (SRF), in: Journal of Services Marketing, Vol. 25, No. 5, pp. 323-335.

Swanson, S. R.; Kelley, S. W. (2001). Attributions and Outcomes of the Service Recovery Process, in: Journal of Marketing Theory and Practice, Vol. 9, No. 4, pp. 50-65.

Tax, S. S.; Brown, S. W. (1998). Recovering and Learning from Service Failure, in: Sloan Management Review, Vol. 40, No. 1, pp. 75-88.

Tax, S. S.; Brown, S. W.; Chandrashekaran, M. (1998). Customer Evaluations of Service Complaint Experiences: Implications for Relationship Marketing, in: Journal of Marketing, Vol. 62, No. 2, pp. 60-77.

Theron, E.; Terblanche, N. S.; Boshoff, C. (2008). The Antecedents of Relationship Commitment in the Management of Relationships in Business-to-Business (B2B) Financial Services, in: Journal of Marketing Management, Vol. 24, No. 9/10, pp. 997-1010.

Thibaut, J. W.; Kelley, H. H. (1959). The Social Psychology of Groups, New York.

Thibaut, J. W.; Walker, L. (1975). Procedural Justice: A Psychological Analysis, Hillsdale.

Thierry, M.; Salomon, M.; Nunen, J. V.; Wassenhove, L. V. (1995). Strategic Issues in Product Recovery Management, in: California Management Review, Vol. 37, No. 2, pp. 114-135.

Toffel, M. W. (2004). Strategic Management of Product Recovery, in: California Management Review, Vol. 46, No. 2, pp. 120-141.

Tsiros, M.; Ross, W. T.; Mittal, V. (2009). How Commitment Influences the Termination of B2B Exchange Relationships, in: Journal of Service Research, Vol. 11, No. 3, pp. 263-276.

Ulaga, W.; Eggert, A. (2006). Relationship Value and Relationship Quality: Broadening the Nomological Network of Business-to-Business Relationships, in: European Journal of Marketing, Vol. 40, No. 3/4, pp. 311-327.

Van Doorn, J.; Verhoef, P. C. (2008). Critical Incidents and the Impact of Customer Satisfaction on Customer Share, in: Journal of Marketing, Vol. 72, No. 4, pp. 123-142.

Van Vaerenbergh, Y.; Larivière, B.; Vermeir, I. (2012). The Impact of Process Recovery Communication on Customer Satisfaction, Repurchase Intentions, and Word-of-Mouth Intentions, in: Journal of Service Research, Vol. 15, No. 3, pp. 262-279.

Vázquez-Casielles, R.; Iglesias, V.; Varela-Neira, C. (2012). Service Recovery, Satisfaction and Behaviour Intentions: Analysis of Compensation and Social Comparison Communication Strategies, in: The Service Industries Journal, Vol. 32, No. 1, pp. 83-103.

Vázquez-Casielles, R.; Suárez-Álvarez, L.; Del Río-Lanza, A. B. (2009). Customer Satisfaction and Switching Barriers: Effects on Repurchase Intentions, Positive Recommendations, and Price Tolerance, in: Journal of Applied Social Psychology, Vol. 39, No. 10, pp. 2275-2302.

Vázquez-Casielles, R.; Suárez Álvarez, L.; Díaz Martín, A. M. (2010). Perceived Justice of Service Recovery Strategies: Impact on Customer Satisfaction and Quality Relationship, in: Psychology and Marketing, Vol. 27, No. 5, pp. 487-509.

Voorhees, C.; Brady, M.; Horowitz, D. (2006). A Voice from the Silent Masses: An Exploratory and Comparative Analysis of Noncomplainers, in: Journal of the Academy of Marketing Science, Vol. 34, No. 4, pp. 514-527.

Wagner, S. M.; Eggert, A.; Lindemann, E. (2010). Creating and Appropriating Value in Collaborative Relationships, in: Journal of Business Research, Vol. 63, No. 8, pp. 840-848.

Wagner, S. M.; Lukassen, P.; Mahlendorf, M. (2010). Misused and Missed Use - Grounded Theory and Objective Hermeneutics as Methods for Research in Industrial Marketing, in: Industrial Marketing Management, Vol. 39, No. 1, pp. 5-15.

Walker, L.; Lind, E. A.; Thibaut, J. W. (1979). The Relation between Procedural Justice and Distributive Justice, in: Virginia Law Review, Vol. 65, No. 8, pp. 1401-1420.

Walster, E.; Berscheid, E.; Walster, G. W. (1973). New Directions in Equity Research, in: Journal of Personality and Social Psychology, Vol. 25, No. 2, pp. 151-176.

Walster, E.; Walster, G. W.; Berscheid, E. (1978). Equity: Theory and Research, Boston.

Walter, A.; Müller, T. A.; Helfert, G.; Ritter, T. (2003). Functions of Industrial Supplier Relationships and Their Impact on Relationship Quality, in: Industrial Marketing Management, Vol. 32, No. 2, pp. 159-169.

Wang, K.-Y.; Liang, M.; Peracchio, L. A. (2011). Strategies to Offset Dissatisfactory Product Performance: The Role of Post-Purchase Marketing, in: Journal of Business Research, Vol. 64, No. 8, pp. 809-815.

Webster, C.; Sundaram, D. S. (1998). Service Consumption Criticality in Failure Recovery, in: Journal of Business Research, Vol. 41, No. 2, pp. 153-159.

Webster, F. E. (1978). Management Science in Industrial Marketing, in: Journal of Marketing, Vol. 42, No. 1, pp. 21-27.

Weitzmann, E. A. (2000). Software and Qualitative Research, in: Denzin, N. K.; Lincoln, Y. S. (eds.). Handbook of Qualitative Research, 2nd ed, Thousand Oaks, pp. 803-820.

Weun, S.; Beatty, S. E.; Jones, M. A. (2004). The Impact of Service Failure Severity on Service Recovery Evaluations and Post-Recovery Relationships, in: Journal of Services Marketing, Vol. 18, No. 2, pp. 133-146.

Wieseke, J.; Lee, N.; Broderick, A. J.; Dawson, J. F.; Van Dick, R. (2008). Multilevel Analyses in Marketing Research: Differentiating Analytical Outcomes, in: Journal of Marketing Theory and Practice, Vol. 16, No. 4, pp. 321–339.

Wilson, D. F. (2000). Why Divide Consumer and Organizational Buyer Behavior?, in: European Journal of Marketing, Vol. 34, No. 7, pp. 780-796.

Wilson, D. T. (1995). An Integrated Model of Buyer-Seller Relationships, in: Journal of the Academy of Marketing Science, Vol. 23, No. 4, pp. 335-345.

Wirtz, J.; Mattila, A. S. (2004). Consumer Responses to Compensation, Speed of Recovery and Apology after a Service Failure, in: International Journal of Service Industry Management, Vol. 15, No. 2, pp. 150-166.

Wirtz, J.; McColl-Kennedy, J. (2010). Opportunistic Customer Claiming during Service Recovery, in: Journal of the Academy of Marketing Science, Vol. 38, No. 5, pp. 654-675.

Wong, N. Y. (2004). The Role of Culture in the Perception of Service Recovery, in: Journal of Business Research, Vol. 57, No. 9, pp. 957-963.

Worsfold, K.; Worsfold, J.; Bradley, G. (2007). Interactive Effects of Proactive and Reactive Service Recovery Strategies: The Case of Rapport and Compensation, in: Journal of Applied Psychology, Vol. 37, No. 11, pp. 2496-2517.

Zeithaml, V. A.; Berry, L. L.; Parasuraman, A. (1996). The Behavioral Consequences of Service Quality, in: Journal of Marketing, Vol. 60, No. 2, pp. 31-46.

Zemke, R. E. (1994). Service Recovery, in: Executive Excellence, Vol. 11, No. 9, pp. 17-18.

Zemke, R. E.; Bell, C. R. (1990). Service Recovery: Doing It Right the Second Time, in: Training, Vol. 27, No. 6, pp. 42-48.

Zhu, Z.; Sivakumar, K.; Parasuraman, A. (2004). A Mathematical Model of Service Failure and Recovery Strategies, in: Decision Sciences, Vol. 35, No. 3, pp. 493-525.

Zolkiewski, J.; Lewis, B.; Yuan, F.; Yuan, J. (2007). An Assessment of Customer Service in Business-to-Business Relationships, in: Journal of Services Marketing, Vol. 21, No. 5, pp. 313-325.