

Louisiana State University

## LSU Scholarly Repository

---

LSU Doctoral Dissertations

Graduate School

---

2017

### Rescuing Relationships: Toward an Understanding of Exchange Relationship Disruption and Recovery

Matthew Mark Lastner

*Louisiana State University and Agricultural and Mechanical College*

Follow this and additional works at: [https://repository.lsu.edu/gradschool\\_dissertations](https://repository.lsu.edu/gradschool_dissertations)



Part of the [Marketing Commons](#)

---

#### Recommended Citation

Lastner, Matthew Mark, "Rescuing Relationships: Toward an Understanding of Exchange Relationship Disruption and Recovery" (2017). *LSU Doctoral Dissertations*. 4364.

[https://repository.lsu.edu/gradschool\\_dissertations/4364](https://repository.lsu.edu/gradschool_dissertations/4364)

This Dissertation is brought to you for free and open access by the Graduate School at LSU Scholarly Repository. It has been accepted for inclusion in LSU Doctoral Dissertations by an authorized graduate school editor of LSU Scholarly Repository. For more information, please contact [gradetd@lsu.edu](mailto:gradetd@lsu.edu).

RESCUING RELATIONSHIPS: TOWARD AN UNDERSTANDING OF  
EXCHANGE RELATIONSHIP DISRUPTION AND RECOVERY

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Interdepartmental Program in Business Administration (Marketing)

by

Matthew Mark Lastner  
B.S., James Madison University, 2005  
M.B.A., University of Maryland, 2012  
May 2017

## **ACKNOWLEDGEMENTS**

There are a number of people who deserve recognition for supporting me these past five years as I worked toward my degree and completed the work contained in this dissertation.

First, a special thanks my dissertation co-chairs, Dr. Folse and Dr. Black, for your time and guidance on this project. Your mentorship on this dissertation, and throughout my time at LSU, has been invaluable. I would also like to thank Dr. Burns for serving on my dissertation committee and for always having a helpful suggestion at the ready on the many occasions when I sought your counsel.

To the entire LSU Marketing Faculty and my fellow Ph.D. Candidates, I have learned a great deal from all of you during my time here and my research has benefited greatly from those collective experiences. Thank you!

Finally, and most critically, I would like to thank my family for their love and support throughout this process. To my mom and dad, thank you for always being there in my life to help with whatever was needed at the time. None of this would have been possible without your support. And most importantly, to my wife Aimee, and my two beautiful children, Kylee and Braeden, thank you for the sacrifices you have made to make all of this possible. I love each of you more than you could ever know, and I look forward to continuing this journey together, wherever it may take us.

# TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	ii
ABSTRACT.....	v
ESSAY ONE: TOWARD AN UNDERSTANDING OF EXCHANGE RELATIONSHIP	
DISRUPTION AND RECOVERY.....	1
INTRODUCTION.....	1
RELATIONAL EXCHANGES: AVOIDING DISRUPTIONS.....	2
Creating Value through Exchange.....	2
Maximizing and Maintaining Value of the Exchange.....	3
RELATIONAL EXCHANGES: RECOVERING FROM DISRUPTIONS.....	6
Threats to Value in Exchange Relationships: Defining and Characterizing Disruptions...	7
Repairing Value in Exchange Relationships: Recovery of Disruptions.....	11
METHODOLOGY.....	15
Critical Incident Technique.....	15
Data Collection and Participants.....	15
RESULTS AND DISCUSSION.....	16
RQ1: Procedure and Measures.....	16
RQ1: Findings.....	17
RQ1: Interpretation of Findings.....	17
RQ1: Limitations and Future Research.....	18
RQ2: Procedure and Measures.....	18
RQ2: Findings – Frequency Analysis.....	19
RQ2: Findings – Regression Analysis.....	19
RQ2: Interpretation of Findings.....	21
RQ2: Limitations and Future Research.....	21
RQ3: Procedure and Measures.....	22
RQ3: Findings – Frequency Analysis.....	22
RQ3: Findings – Regression Analysis.....	23
RQ3: Interpretation of Findings.....	24
RQ3: Limitations and Future Research.....	25
CONCLUSION.....	25
Relational Disruptions.....	25
Relational Recovery.....	26
REFERENCES.....	28
ESSAY TWO: SMALL BUMPS, BIG CONSEQUENCES.....	
INTRODUCTION.....	35
CONCEPTUAL BACKGROUND.....	37
Effects of a Single Disruption.....	38
Effects of Multiple Disruptions.....	38
Proximity and Duration of Disruptive Effects.....	41
Buffering Effect of Longer-Tenure Relationships.....	41
METHODOLOGY.....	42

Data and Sample.....	42
Measures.....	43
Procedure.....	44
Results.....	48
DISCUSSION, IMPLICATIONS, AND RESEARCH DIRECTIONS.....	56
Theoretical Implications.....	57
Managerial Implications.....	58
Limitations and Future Research Directions.....	59
REFERENCES.....	61
 ESSAY THREE: MINDSET MATTERS.....	 65
INTRODUCTION.....	65
THEORETICAL FRAMEWORK.....	66
The Relational Path to Loyalty.....	67
The Non-Relational Path to Loyalty.....	69
The Bridge between Relational and Non-Relational Antecedents.....	71
The Impact of Subjective Evaluations on Objective Performance.....	72
The Moderating Effect of Disruptive Events.....	72
METHODOLOGY.....	74
Survey Design and Sample.....	74
Measurement and Analysis.....	75
Results for the Theoretically Predicted Model.....	75
Results for the Alternative Model.....	80
DISCUSSION, IMPLICATIONS, AND RESEARCH DIRECTIONS.....	83
Theoretical Implications.....	84
Managerial Implications.....	85
Limitations and Future Research Directions.....	86
REFERENCES.....	88
 APPENDIX A: LIST OF MEASURES INCLUDED IN ESSAY 1 SURVEY.....	 94
 APPENDIX B: DESCRIPTIONS PROVIDED OF DISRUPTION TYPES IN.....	 98
ESSAY 1 SURVEY	
 APPENDIX C: DEFINITIONS OF NORMS INCLUDED IN ESSAY 1 SURVEY.....	 99
 APPENDIX D: VARIABLE NAMES AND OPERATIONAL DEFINITIONS IN.....	 100
ESSAY 2	
 APPENDIX E: MEASUREMENT PROPERTIES FOR THE THEORETICALLY.....	 101
PREDICTED MODEL IN ESSAY 3	
 APPENDIX F: MEASUREMENT PROPERTIES FOR THE ALTERNATIVE MODEL.....	 103
IN ESSAY 3	
 VITA.....	 104

## **ABSTRACT**

Research investigating business-to-business (B2B) exchange supports the position that cultivating strong exchange relationships is vital to the long-term success of both parties involved in an exchange. However, while much is known about how exchange relationships are developed and organized to yield maximum benefits for buyers and sellers, very little research has been advanced to understand how B2B exchanges experience disruptive events and what impact disruptions have on the long-term health of these relationships. Across three essays, this dissertation utilizes a multi-method approach to examine the nature and impact of disruptive events on inter-firm exchange relationships to address this shortcoming in the literature. Essay 1 draws from multiple literature bases, including seminal research from both the B2B exchange literature and the business-to-consumer (B2C) service failure literature, to develop a new conceptualization of relational disruption and relational recovery in B2B exchanges. Additionally, using the critical incident technique (CIT) and a sample of over 600 business professionals, this research examines the multitude of ways exchange relationships are disrupted. The findings indicate that lower-magnitude disruptive events such as service failures are far more commonly experienced relative to high-magnitude events such as opportunistic acts. Building from the findings in Essay 1, in Essay 2 we work with a large consumer goods manufacturer to analyze the impact of supplier-caused product and service disruptions on customer purchasing using exclusively the secondary data furnished by the manufacturer. The results indicate that disruptive events result in a significant post-disruption decrease in customer spending, and a unique pattern of effects is observed in which decreased sales are not generally realized until a period 4-6 months after the disruption (marking a lagged effect), peak in a period 7-9 months after the disruption, and then return to normal levels 10-15 months after the disruption. Finally, in Essay 3 over 650 of the manufacturer's customers are surveyed to establish how customer evaluations of satisfaction, trust, and loyalty in exchange relationships are impacted by disruptive events. The results demonstrate that supplier-caused disruptive events have a significant negative impact on customer evaluations of service quality, satisfaction, and loyalty intentions.

# ESSAY ONE

## TOWARD AN UNDERSTANDING OF EXCHANGE RELATIONSHIP DISRUPTION AND RECOVERY

### INTRODUCTION

Research investigating business-to-business (B2B) exchange supports the position that cultivating strong inter-firm relationships (i.e., buyer-seller relationships) is vital to the long-term success of both parties involved in an exchange (Morgan and Hunt 1994; Palmatier 2008). Healthy exchange relationships are characterized as being built on the foundation of high levels of inter-firm trust and commitment (Garbarino and Johnson 1999; Gregoire, Tripp, and Legoux 2009; Priluck 2003), and evidence demonstrates their positive impact on critical downstream measures such as sales growth, financial performance, and cooperation for both parties (Morgan and Hunt 1994; Palmatier, Dant, and Grewal 2007; Palmatier, Dant, Grewal, and Evans 2006). Further, strong exchange relationships can create a competitive advantage for companies relative to rival firms engaged in weaker relationships (Dyer and Hatch 2006; Dyer and Singh 1998). In short, it is an accepted premise that exchange relationships create value and can yield a number of positive outcomes for both parties involved in the exchange.

Inevitably, relationships experience bumps in the road and often fail, a sentiment offered both in practice and scholarship. For instance, referring to supply chain relationships, Hibbard, Kumar, and Stern (2001) state “at one time or another in virtually every marketing channel, a channel member has engaged in actions that are viewed by other members as destructive...” Yet, while research has rightly identified and championed the benefits associated with the *cultivation* of strong exchange relationships, the literature has largely ignored the *vulnerability* of such relationships and why they rarely last forever. It is telling that the title of Dwyer, Schurr, and Oh’s seminal (1987) paper on the relationship lifecycle is “*Developing Buyer-Seller Relationships*.” Just as these authors suggest in the title, much of the subsequent work in the literature has focused on relationship development, identifying the stages in which relationships are formed, organized, and strengthened. Indeed, this body of research offers a vital foundation of what constitutes value in the exchange and how to maximize value through governance and norms by focusing on the first four phases of the relationship lifecycle framework identified by Dwyer et al. (1987). However, the literature is silent on addressing what occurs between phase 4 “Commitment” and phase 5 “Dissolution” that causes healthy exchange relationships to begin to fracture and fall apart. Thus, we are left with questions as to *why* exchange relationships dissolve and fail and *what* “recovery” actions exchange partners can take to respond to and overcome disruptive events when they occur.

These unanswered questions reflect a profound deficiency in the literature. The purpose of the present research is to address this deficiency by providing insights into what constitutes a relational disruption, factors that promote relational disruptions and strategies that may overcome disruptive events. While not specifically aiming to define or offer an overarching perspective of relational disruptions in terms of triggers and recovery strategies, recent investigations of *relationship transgressions* (Jones, Dacin, and Taylor 2011), *relationship destroying factors* (Samaha, Palmatier, and Dant 2011), and *transformational relationship events* (Harmeling et al. 2015) offer promising evidence that disruptions in the B2B domain are indeed damaging and additional investigations are warranted. We begin to do so by answering three important questions.

1. What types of relationship disruptions occur in exchange relationships and how frequently do they occur?
2. Following disruptions, how can firms attempt to recover and salvage exchange relationships?
3. What role do norms play in relational disruptions and recoveries?

We contend that answers to these questions will magnify the need to extend the relationship lifecycle framework offered by Dwyer et al. (1987) to include steps necessary to successfully recover from relational disruptions. To begin, we present an overview of research stressing the creation and maximization of value through relationships, which, in essence, naturally build barriers to disruptions. Next, we focus on the three research questions, synthesizing the existing literature pertaining to each research question. Within the discussion of each research question, we offer evidence and theory gleaned from both the B2B and business-to-consumer (B2C) domains to establish the landscape of current knowledge about relational disruptions to date. We then describe an empirical study undertaken to answer the three research questions and present results that enable us to address these questions. Lastly, we note theoretical and managerial implications of these findings and how they extend current knowledge.

## **RELATIONAL EXCHANGES: AVOIDING DISRUPTIONS**

Before we can begin to understand how the value created by exchange relationships is threatened by disruptive events, we must first take a step back and discuss how that value is generated in the first place. The generated value is important, as efforts to establish and maximize the value created in relationships can serve as a buffer to relational disruptions. Thus, the primary purpose of this section is to offer a synthesis of existing knowledge that heavily emphasizes value generation and the cultivation of relationships. In this section, we highlight seminal work that details motivations to engage in relational exchanges, the types of benefits associated with relational exchanges, and the roles of contractual and relational governance that facilitate and maximize the value of relational exchanges.

### **Creating Value through Exchange**

An important question that must be addressed is, why do firms engage in inter-firm exchanges? This question can be answered in light of institutional economics theory: exchanges are driven by the interest of firms to maximize value (Alderson 1958; Palmatier 2008). If a firm does not perceive value to exist in a potential exchange, meaning there are “no concessions or inducements” being offered that would provide “sufficient satisfaction to motivate exchange,” then the exchange will not be made (Alderson 1965, p. 84). Bagozzi (1975) explains that the value derived from the exchange can take multiple forms – utilitarian, symbolic, and mixed. Utilitarian exchanges occur when the value in the exchange is tied to the tangible characteristics associated with the objects exchanged. This form of exchange mirrors the classic conception of the “economic exchange” driven by exchanges of money in return for a product. In other exchanges, the value derived may be symbolic, meaning the perceived value is intangible and of a psychological or social nature. Finally, in many cases, the value exchanged could be mixed, including both utilitarian and symbolic value.



The greater the value perceived to exist from engaging in exchanges, including both tangible and intangible value, the more likely firms are to engage in repeated exchanges with one another. Exchanges have been conceptualized to exist on a continuum ranging from “discrete” exchanges on one end to “relational” exchanges on the other (Macneil 1980). Discrete exchanges, also commonly referred to as “spot-market” transactions, are described as simple exchanges of money in return for a product or service (Macneil 1980; Priluck 2003). They are marked by very little communication between the parties and narrow content (Dwyer et al. 1987). Additionally, discrete exchanges are isolated transactions, with no expectation of further transactions between the parties in the future. In contrast, relational exchanges are those in which buyers and sellers interact over time (Dwyer et al. 1987; Macneil 1980). In relational exchange, parties grow to trust and feel committed to one another (Garbarino and Johnson 1999; Priluck 2003). Arndt (1979) refers to such exchanges as domesticated markets, where firms enter into “voluntary, long-term, binding commitments” (p. 70). Further, parties in relational exchanges can be expected to “derive complex, personal, noneconomic satisfactions” from the exchange (Dwyer et al. 1987; p. 12), reflective of the “symbolic” value conceptualized by Bagozzi (1975).

In practice, very few exchanges are ever truly discrete (Macneil 1980). However, it is also difficult to pinpoint when a series of exchanges between parties should be viewed as an exchange *relationship*. Bendapudi and Berry (1997) define a relationship as existing when “an individual exchange is assessed not in isolation, but as a continuation of past exchanges likely to continue into the future” (p. 16). From this definition, the key distinguishing feature between a series of isolated exchanges and an exchange relationship is the mindset of the parties involved in the exchange – do they view the exchange in light of past exchanges and potential future exchanges. A number of relationship constructs have been advanced to assess the mindset of exchange parties and to determine where an exchange relationship exists on the discrete-relational continuum. Borrowing from the definition of relational exchange above, we can identify that trust and commitment are two important elements characterizing relational exchanges. Trust is defined as “when one party has confidence in an exchange partner’s reliability and integrity” and commitment is defined as existing when “an exchange partner believes that an ongoing relationship with another is so important as to warrant maximum efforts at maintaining it” (Morgan and Hunt 1994, p. 23). The greater the levels of trust and commitment that exist between exchange parties, the more relational the exchange is considered and the more value is derived.

### **Maximizing and Maintaining Value of the Exchange**

Though firms may recognize the potential for value creation from engaging in inter-firm exchange relationships, there are still questions of how to make sure that value is actually realized. Exchanges can be complex and difficult to organize. Further, firms must be wary of exchange partners with nefarious intentions (Williamson 1981, 1985). The question of how to structure exchange relationships so that full exchange value can be recognized is addressed by the concept of exchange governance. Governance is a “multidimensional phenomenon which encompasses the initiation, termination, and ongoing relationship maintenance between a set of parties” (Heide 1994, p. 72). Governance mechanisms are the tools used by exchange parties to establish and structure an exchange relationship (Brown, Dev, and Lee 2000). Broadly speaking, the literature identifies two primary forms of exchange governance, contractual governance and

relational governance (Cao and Lumineau 2015)<sup>1</sup>. Though it is an oversimplification of how the forms of governance may be applied both conceptually and in practice, the contractual governance approach is generally conceived as aligning with transactional exchanges and the relational approach with relational exchanges (Ferguson, Paulin, and Bergeron 2005).

## **Contractual Governance**

Contractual governance involves the drafting and enforcement of formal contracts representing promises between parties to perform particular actions in the future (Macneil 1978; Poppo and Zenger 2002). Contracts can be conceptualized along a number of dimensions. Soft, informal, normative contracts are less comprehensive and leave room for interpretation between exchange partners. Hard, formal, explicit contracts are generally more complex in nature, and are meant to be comprehensive and strictly interpreted. Contractual governance is generally reflective of the hard, formal, explicit, and written form of contracts (Ferguson et al. 2005). Firms draft contracts to ensure that specific performances are met within the exchange, as well as to safeguard against potential exchange hazards. Transaction cost theory (TCT) is often used to support the use of contractual governance in exchange relationships (Cao and Lumineau 2015). The central premise of TCT explains that firms will attempt to govern inter-firm exchanges such that the organization of the exchange matches the known hazards, including threats related to specialized asset investments, measurement difficulty, and transactional uncertainty (Heide and John 1988; Poppo and Zenger 2002; Williamson 1985, 1991). According to TCT reasoning, when the costs of protecting a firm's interests in an exchange become sufficiently high, firms should spurn market transactions and elect to organize internally (Heide and John 1988; Rindfleisch and Heide 1997). Conversely, to the extent that firms believe that contracts can effectively safeguard against exchange hazards, without incurring unnecessary costs, market exchanges should be favored.

Though contracts are still very commonly used to govern exchange relationships, researchers have pointed to a number of inadequacies to suggest that contracts are not an ideal form of governance. The purpose of contracts is to specify how parties will conduct exchanges, including any promises, obligations, and processes used to resolve disputes as they arise (Poppo and Zenger 2002). However, the task of anticipating the future course of an exchange relationship such that all promises, obligations, and dispute resolution processes can be adequately captured in the formal contract is a monumental task. More often than not, contracts will need to be updated and revised on an ongoing basis if they are to provide the type of comprehensive safeguarding for the parties that they are intended for. Updating contracts to address newly arising hazards and exchange issues is both time-consuming and costly (Poppo and Zenger 2002), and, in accordance with TCT, these costs may prompt decisions to organize transactions internally rather than in the marketplace (Rindfleisch and Heide 1997). Moreover, the difficulty of drafting complete and comprehensive contracts limits the ability of the contract to safeguard against the very hazards it was intended for (Cao and Lumineau 2015). Another issue identified with contractual governance is that the act of drafting contracts can serve to undermine the ability of firms to cultivate more than an arm's length relationship with exchange

---

<sup>1</sup> The literature also identifies that contractual governance and relational governance are commonly employed simultaneously, as complements, referred to as plural governance (Cao and Lumineau 2015; Poppo and Zenger 2002).

partners (Poppo and Zenger 2002). The request to draft a contract to govern an exchange can convey distrust in the exchange relationship (Macaulay 1963; Poppo and Zenger 2002). The reasoning here is that if trust between exchange partners is sufficiently high, there would be no need to write a formal contract; there would not be any “hazards” to “safeguard” against. As trust is a fundamental building block of strong interorganizational relationships, formal contracts can undermine the cooperation between parties and threaten the overall stability of the exchange relationship.

## **Relational Governance**

The deficiencies associated with contractual governance identified above suggest that alternative forms of governance are often necessary to either replace or supplement contracts. Critics of contractual governance point out that while contracts may be appropriate for individual, “spot market” transactions where there are no expectations of transacting again in the future, they may not be appropriate for more complex and ongoing exchange relationships (Gundlach and Achrol 1993). Moreover, in many cases firms prefer to dispense with the formality of contracts and arrange transactions using so-called “handshake agreements” where normative principles are expected to guide the exchange relationship (Macaulay 1963). In such cases, relational governance is proposed as an alternative governance mechanism that can either replace or complement explicit contracting.

Relational governance relies on the cultivation and enforcement of social norms within the exchange relationship to foster inter-organizational trust and facilitate exchange (Poppo and Zenger 2002). An advantage of relational governance over contracts is that relational governance “can enhance exchange performance by embedding private and public information flows in a matrix of social ties rather than resorting to contract” (Ferguson et al. 2005, p. 221). Where contractual governance relies on “traditional promise” to guide exchanges, relation-based governance is considered to be a “nonpromissory” form of governance that attempts to project the relationship into the future (Nevin 1995, p. 329). The nonpromissory approach allows exchange parties to address relational events on a case-by-case basis, creating flexibility for the exchange parties to respond to issues that could not be anticipated and drafted into formal contracts (Nevin 1995).

Two theoretical perspectives have been proposed to explain the relational governance process. The first, social exchange theory (SET), proposes that the exchange process involves sociological elements in addition to the economic elements generally associated with exchanges between buyers and sellers (Cao and Lumineau 2015). Relying on the principles of obligation and reciprocity, SET indicates that the exchange process is, in part, motivated by the returns parties are expected to obtain in an exchange (Blau 1964; Cropanzano and Mitchell 2005). The central outcome emphasized in SET is trust. Trust is defined as existing “when one party has confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt 1994, p. 23) and is viewed as a foundational element for stable and ongoing social relations in SET (Blau 1964; Cao and Lumineau 2015; Palmatier et al. 2007).

The second theory guiding the relational governance literature is relational exchange theory (RET). The central premise of RET is that exchange relationships are governed by a shared set of norms, or expectations regarding behavior of the respective parties comprising an exchange relationship (Cannon, Achrol, and Gundlach 2000; Cao and Lumineau 2015). The RET contends that the norms that govern exchange behavior in relational exchanges are separate and

distinct from those observed in discrete exchanges (Kauffman and Stern 1988). Importantly, RET does not dismiss the use of contracts as a governing mechanism. Rather, RET indicates that for exchanges to function properly, even those guided by formal contracts, a set of common norms must be present (Kauffman and Dant 1992). Further, similar to social exchange theory, the RET allows that trust is still instrumental to exchange, but posits that relational norms are the most important governing mechanism for transactions (Palmatier 2008). Adherence to norms in exchange relationships “engenders a win-win exchange atmosphere” whereby both parties stand to benefit from doing business together (Brown et al. 2000; Heide and John 1992).

Ian Macneil is largely credited with laying the foundations from which relational exchange theory has emerged. Macneil’s seminal works (1978, 1980) identified and advocated for the importance of so-called “relational norms” in inter-firm exchanges. The most commonly identified relational norms include solidarity, mutuality, role integrity, flexibility, and information exchange. *Solidarity* is the extent to which high value is placed on the relationship (Bello, Chelariu, and Zhang 2003; Heide and John 1992) and to which the relationship is viewed as long-term (Li and Dant 1997). *Mutuality* represents a concern for the common good in the relationship (Achrol and Gundlach 1999) to the extent that parties are willing to evenly share in gains and losses (Li and Dant 1997). *Role integrity* identifies the willingness of the parties to assume multiple responsibilities within the exchange relationship (Achrol and Gundlach 1999). *Flexibility* simply represents the willingness of the exchange parties to make alterations and good faith adjustments to the exchange relationship as circumstances change over time (Achrol and Gundlach 1999; Antia and Frazier 2001). Finally, *information exchange* explains that the exchange parties proactively provide useful and timely information to each other (Anderson and Narus 1990; Antia and Frazier 2001). It is important to note that though the norms defined here are the most frequently assessed *relational* norms in the literature, other norms have been also been identified as playing important roles in the exchange process in the literature – the reciprocity norm, harmonization of conflict, and restraint of power among them (Kaufmann and Dant 1992).

In sum, this synthesis of relevant literature acknowledges that there exist motivations to engage in relational exchanges, benefits associated with different types of relational exchanges, and governance mechanisms that facilitate and maximize the value of relational exchanges. Indeed, exchanges are driven by the interest of firms to maximize value and that value motivates repeated exchanges that can develop into relational, or “ongoing” exchanges. Further, governance mechanisms facilitate the process of those partnerships. Contracts can dictate how parties are expected to behave, and relational norms can complement those contracts for situations in which documentation is not available. Further, all together, barriers that prevent relational disruptions are put in place. Yet, despite the presence of governance mechanisms to facilitate and smooth the exchange process, relationship disruptions still occur (Hibbard et al. 2001). Contracts and relational norms are a helpful guide for relationships, but whether intentional or not, given due time, rules will be broken and norms will be violated.

## **RELATIONAL EXCHANGES: RECOVERING FROM DISRUPTIONS**

Our investigation of the B2B exchange relationship literature has identified that a fundamental deficiency exists in the literature pertaining to how exchange relationships experience and overcome disruptions that inevitably occur, even with governing contracts and relational norms in place. To this point, much of the exchange relationship literature has focused

on the positive outcomes ascribed to “strong” exchange relationships, failing to adequately acknowledge and address the vast range of disruptive events that can cause relationships to falter and dissolve. We contend that the emphasis on prevention and governance over response is short-sighted and offers a penetrable barrier.

In the following section, we review and synthesize literature pertaining to what is currently known about the three overarching questions this research aims to address: (1) what types of relationship disruptions occur in exchange relationships and how frequently do they occur (2) following disruptions, how can firms attempt to recover and salvage exchange relationships, and (3) what role do norms play in the relational disruptions and recoveries? Within the discussion of each research question, we offer evidence and theory gleaned from both the B2B and B2C domains to establish the landscape of current knowledge about relational disruptions to date. First, pertaining to the first question, synthesis of the B2B literature reveals that scholars have yet to identify the full spectrum of disruptive events that could potentially damage relationships, and, relatedly, have yet to fully characterize the different dimensions that factor into disruptive events, making it impossible to offer a complete definition of relational disruptions. Further, the B2B research has tended to focus more narrowly on specific types of disruptions that occur in exchanges individually (i.e. conflict or opportunism), with no research to this point examining *all* of the potential forms of relational disruption at once to understand how frequently each arises in relationships. The B2C literature, specifically in services, does shed insight into the idea that norms and expectations might be fundamental to the definition of relational disruptions, as they are important to the definition of what constitutes service failures. Moreover, some of the seminal research in the area of service failures have provided insights into how frequently different types of failures occur in B2C exchange encounters (see Bitner, Booms, and Tetreault 1990; Kelley, Hoffman, and Davis 1993), though similar investigations have yet to be conducted with respect to B2B exchanges. While somewhat limited to disruptions in services per se, the services research also identifies various dimensions of disruptive events, such as causal attributions of the failure and the magnitude of the failure that might relate to the conceptualization of relational disruptions.

Related to the second and third research questions that focus on recovery, our synthesis of limited B2B recovery literature reveals that recovery actions typically require the involvement of both parties to the exchange, and the timing of recovery seems to be important. Firms should almost always be in a “recovery mode,” communicating frequently and trying to identify disruptive events early. Further, the services literature identifies several recovery strategies that can be employed in isolation or in tandem to address relational disruptions and proposes a number of dimensions through which recoveries can be assessed, including speed, initiation, and attribution for the recovery. These service failure/recovery investigations also suggest that norms might play an important role in the recovery process, just as they do during the course of disruption.

### **Threats to Value in Exchange Relationships: Defining and Characterizing Disruptions**

#### **Business-to-Business Domain**

While still in their infancy, definitions of relational disruptions are emerging in the literature pertaining to B2B exchanges. However, on the whole, these definitions lack clarity as the focus of the existing research has not so much been on defining the concept but highlighting

important types of behaviors or events that create friction in relationships. That is, there appears to be some confusion between the concept and antecedents. Further, the literature is still quite fragmented. Different forms of disruption have been identified, but there has not been any attempt to synthesize the varying constructs within a single, overarching conceptualization of relational disruption. Yet, discussions pertaining to the related concepts of *destructive acts* (Hibbard et al. 2001), *negative critical incidents* (van Doorn and Verhoef 2008), *relationship destroying factors* (Samaha et al. 2011), and *transformational relationship events* (Harmeling et al. 2015), offer basic characteristics to be considered.

Within the exchange literature several recent works have identified and defined different forms of exchange disruptions that can be used to guide our conceptualization of relational disruption. Hibbard et al. (2001) were among the first to more broadly characterize disruption within B2B exchange relationships. These authors investigated the response of exchange partners to *destructive acts* within the exchange relationship, which they define as actions “perceived by the aggrieved channel member as having a significant negative impact on the viability or functioning of the affected firm” (p. 46). The key findings from their study indicated that the response of an exchange partner to a destructive act depended in part on the magnitude of the destructive act, as well as causal attributions for the act. Destructive acts of higher intensity and acts believed to be caused by an exchange partner both elicited stronger responses that were more detrimental to the long-term health of the exchange relationship. Van Doorn and Verhoef (2008) define a negative critical incident as “out-of-the-ordinary events during an interaction that customers perceive or recall as unusually negative” (p. 123). This definition suggests that relational disruptions take the form of events that represent a break from the ordinary or usual interactions in an exchange relationship. Their findings indicate that negative critical incidents generate a strong updating process where customers reconsider the exchange relationship, but that previous satisfaction with the exchange partner has a carryover effect that can help to mitigate the negative influence of the incident.

Samaha et al. (2011) introduce the construct *relationship destroying factors* which the authors propose consists of three primary ways that exchange relationships can be disrupted: 1) perceived *unfairness* in the relationship, defined as occurring when one party believes that the “distribution of rewards relative to its efforts” in the exchange is inequitable; 2) *conflict* in the relationship, defined as occurring when one party to the exchange believes that the other party is “interfering with its goal attainment”; and 3) *opportunism* occurring in the relationship, classically defined as acts of “self-interest seeking with guile” by one party to the exchange (Williamson 1975, p. 6). Of these three, the authors identify perceived unfairness as a key driver of relational disruption with their findings indicating that it “acts as ‘relationship poison’ by directly damaging channel relationships and aggravating the negative effects of both conflict and opportunism...” on relationship cooperation, flexibility, and performance (p. 99). Finally, most recently Harmeling et al. (2015) introduced the concept of *transformational relationship events* (TRE’s) which are defined as a “memorable event between exchange partners that disconfirms relational norms to a meaningful degree.” The authors propose that TRE’s disconfirm relational norms in either a positive or negative way. When an exchange partner disconfirms relational norms in a negative fashion (i.e. commits a norm violation such as failing to communicate appropriately with an exchange partner or disputing contract rules), this is referred to as *negative relational disconfirmation* and such events are expected to activate “intense, negatively valenced” responses from the aggrieved party. Here, we once again see that norms are expected to play a central role in relationship disruptions.

In light of these recent works we can begin to develop a more accurate conceptualization of relationship disruptions. Overall, these definitions in the B2B domain suggest that relationship disruptions can be defined as conduct by a party or events that weaken, undermine, or severely damage an exchange relationship. There are two important points to make about this conceptualization. First, as indicated by Harmeling et al. (2015), it appears that norm violations may play an instrumental role in the disruption process. Though the other forms of disruption defined above do not explicitly identify norm violations in their definitions, it is possible that such violations are an antecedent factor that contributes to these disruptive events. For instance, Samaha et al. (2011) identify conflict as a “destroying factor” in relationships, but the cause of the conflict in the relationship could potentially stem from a norm violation, such as a failure to exchange timely information or to be flexible to changing demands in the relationship. Our investigation will attempt to further clarify the role played by norms in the relationship disruption process. Second, these works identify that a couple of attributes of the disruption can be assessed to determine on how much impact the disruption will have on the exchange relationship. Hibbard et al. (2001) find that attributions of responsibility for the disruption contribute to how much damage the disruption causes to the exchange relationship. Further, both Hibbard et al. (2001) and Harmeling et al. (2015) indicate that disruptions vary in terms of magnitude or severity which determines the extent of the impact disruptions have on downstream measures.

Thus, it appears that there are additional dimensions of the disruption that need to be assessed in our conceptualization of relational disruptions. Importantly, it should be noted here that relative to the services literature in the B2C domain, the B2B exchange literature has done a poor job of incorporating these additional dimensions of disruption into their conceptual frameworks. Below, our review of the services literature offers a much more expansive review of both the different dimensions that can be used to characterize disruptive events and the theoretical underpinnings that support them.

## **Business-to-Consumer Domain**

The services literature in the B2C domain has developed a rich body of research in the area of service failure and recovery encounters that can be drawn from and applied to better understand the landscape of disruption in the B2B domain. Though there is still much to be learned about disruptive events in this domain as well, the current literature offers several important constructs, theory, and findings that we believe can be useful as we refine our conceptualization of relational disruption.

Research investigating disruptive events in the services literature has identified a few different forms of disruption. Most commonly, disruptions in the services literature are confined and referred to as *service failures*, defined as a service-related mishap, problem, mistake, or error that occurs during a consumer’s experience with a firm (Bitner et al. 1990; Hoffman, Kelley, and Rotalsky 1995; Maxham III 2001). Others have defined service failures in terms of disconfirmed expectations – a service failure occurs when service performance falls below a customer’s expectations (Hess Jr., Ganesan, and Klein 2003; Jones et al. 2011). The literature differentiates between different *types* of service failure. Most commonly, investigations of service failure differentiate between core service failures, which involve issues with the service itself – what the customer actually receives from the service provider (Keaveney 1995; Smith, Bolton, and Wagner 1999), and process failures, which refer to how the product or service are delivered to

the customer (Roschk and Gelbrich 2014; Smith et al. 1999). While findings tend to indicate that core service failures are more detrimental to customer relationships, process failures can also factor heavily into critical outcomes such as customer dissatisfaction and loyalty intentions.

Recent research has further broken down the classification of failure types to differentiate between monetary vs. non-monetary failures and reversible vs. irreversible failures (Roschk and Gelbrich 2014). It is clear from these definitions that the service literature uses the term “failure” to be inclusive of a broad spectrum of service-related events that occur during the course of the service provision. The services literature has also referred to disruptive exchange events as *transgressions*, broadly defined as a violation of implicit or explicit rules guiding the exchange (Aaker, Fournier, and Brasel 2004). Transgressions have also been studied with respect to specific referents. Hansen, Lund, DeCarlo, and Scheer (2012) define *ethical transgressions* as failures that occur when normative expectations are violated and Jones et al. (2011) define *relationship transgressions* as violations of relationship-relevant norms. Importantly, within the definitions of both service failure and transgression above, we see that norms (shared *expectations* of behavior) play a central role in the conceptualization of disruption.

The services research offers a comprehensive framework for evaluating *service* disruption. Customer perceptions of service failures are typically assessed through two theoretical lenses. The first is expectancy theory. Generally, expectancy theory holds that customers compare the performance of the firm, including both the core service and the process, against the expectations they had for the performance prior to the exchange (Boulding, Kalra, Staelin, and Zeithaml 1993; McCollough, Berry, and Yadav 2000). Negative disconfirmation of expectations occurs when performance falls short of customer expectations. Service failures represent an initial (negative) disconfirmation, where the performance of the service provider fails to meet the customer’s a priori expectations (Gelbrich and Roschk 2011b; McCollough et al. 2000). Perceptions of the service failure vary with respect to *how much* the failure disconfirms expectations. Here, research typically assesses the perceived size and intensity of the failure alternatively referred to as the severity or magnitude of the failure (Smith et al. 1999; Weun, Beatty, and Jones 2004). Failures of higher severity disconfirm expectations to a greater extent and thus cause a greater disruption in the exchange relationship compared to failures of a lesser magnitude. Generally, core service failures are regarded as more severe compared to process failures, as the loss experienced by the customer is larger and creates greater dissatisfaction (Smith et al. 1999). The service literature also identifies that the frequency of failures, both in terms of how often a failure occurs in an exchange relationship and how diffuse a failure is throughout a service encounter can contribute to perceptions of failure magnitude (Maxham and Netemeyer 2003; Sivakumar, Li, and Dong 2014). Generally, failures that occur more than once or repeatedly within an exchange relationship will disconfirm customer expectations to a greater extent than isolated failure events.

The second theoretical perspective applied to service failures is attribution theory. Following service failure experiences, customers often reflexively attempt to determine who or what caused the event to occur, a process known as making causal attributions (Taylor 1994). Research suggests that attributions consist of three primary dimensions - the locus, stability, and controllability of the attribution. The locus of an attribution refers to identifying where the cause of a failure is located (Hess Jr. et al. 2003; Taylor 1994). Generally a distinction is made between internal causes, those attributed to the individual or consumer (a self-attribution), and external causes, those attributed to anything in the environment (Taylor 1994). External causes have been further parsed to differentiate between causes that are related to the service provider and those



unrelated to the service provider, such as a failure caused by the weather or some other factor unrelated to the service provider or the customer (Jones et al. 2011). The locus of attribution has also been referred to as blame attribution in the literature and is the most important dimension of the three as the other two dimensions are assessed with respect to locus. The second dimension, the stability of the attribution, refers to the degree to which a cause is seen as being relatively permanent or temporary (Taylor 1994). Finally, the controllability of the failure is defined as the degree to which the cause was under volitional control or choice (Hess Jr. et al. 2003; Taylor 1994).

Overall, the definitions and conceptual overview of failure and transgression found in the B2C domain offer two important insights for our conceptualization of relational disruption. First, we find that norms and expectations are fundamental to the definition of failure in this literature. This further confirms that further investigation of the role played by norms is vital to gain a better understanding of how relational disruptions manifest within and affect exchange relationships. Second, the review of the services literature identifies a number of dimensions of disruptive events that are important to assess in order to gain a more complete understanding of the impact disruptions have on exchange relationships. Building off of our review of the B2B exchange literature, we once again found that causal attributions of the failure and the magnitude of the failure are important dimensions of the disruption. Further, the services literature indicates that other dimensions, including disruption frequency and type (core vs. process) need to be taken under consideration when assessing disruptions.

## **Repairing Value in Exchange Relationships: Recovery of Disruptions**

### **Business-to-Business Domain**

A primary deficiency of research in the B2B domain is that the literature has devoted relatively little attention to how relationships can be recovered following a disruption. Owing to the prescriptive focus already discussed, the exchange literature has offered very little guidance in terms of how exchange partners can implement recovery strategies to salvage relationships and stave off dissolution. However, though there is clearly a dearth of research in this area relative to the research in the services domain, there still exist a select number of works that can be drawn from to conceptualize relationship recovery.

One of the primary recovery processes identified in the exchange literature is conflict resolution. Dant and Schul (1992) outline two broad categories of conflict resolution methods. The first category includes “institutionalized” mechanisms through which exchange parties address conflict in a “systematic, ongoing manner” (p. 39). The second category is less systematic and more behavioral, consisting of the activities and actions initiated to address conflict in the exchange relationship (Dant and Schul 1992). Research indicates that conflict resolution actions are most impactful before conflict reaches a manifest state in which an exchange partner perceives another to be blocking its goal attainment (Frazier 1983; Sheth 1973). Failure to respond swiftly and appropriately to resolve conflicts results in dissatisfactory outcomes in which “personal relations can be disrupted” (Frazier 1983, p. 73). Another recovery mechanism identified in the exchange literature is exchange communication, defined as “timely sharing of meaningful information about the relationship between exchange partners” (Harmeling et al. 2015, p. 53). Exchange communication is an interesting construct because it can impact exchange relationships both in the form of a disruption and a mechanism for

overcoming disruption. Infrequent or poor communication between exchange partners can be disruptive to exchange relationships. Conversely, frequent and positive communication behaviors between exchange partners can help to overcome relationship issues when they arise. An additional recovery mechanism identified in the exchange literature is among the most basic – the offering of an apology following a disruption. Harmeling et al. (2015) characterize a sincere apology as including “remorse, taking responsibility for the action, willingness to make restitution, and a promise to change” (p. 54). Importantly, in many cases a sincere apology and a mere “willingness” to make restitution may not be sufficient; actual restitution may be necessary. In this case, financial compensation can be an effective recovery mechanism following certain types of disruption (Harmeling et al. 2015).

The existing B2B literature addressing exchange relationship recovery offers some important, though limited, insights for our conceptualization of how relational disruptions can be recovered. Drawing from the current literature reviewed above, relational recovery can be conceptualized as ongoing actions taken by firms to swiftly respond to issues in the exchange relationship, including communicating with the exchange partner regarding issues, apologizing for issues, and offering financial compensation to rectify issues. It should be noted that, as is the case with much of the B2B literature, the recovery mechanisms discussed in the literature are actually more *prescriptive* and preventative measures that can be taken to attenuate the effects of disruptions when they occur rather than *postscriptive* and reactive actions that are taken after a disruption. For instance, institutionalized mechanisms for conflict resolution are “systematic and ongoing,” meaning that they in effect help to minimize the disruption when, and if, one occurs. Similarly, the exchange communication recovery mechanism identified by Harmeling et al. (2015) can be used throughout the course of the relationship to keep disruptive events to a minimum, rather than as a reactionary mechanism when disruptions occur. Our research addressing relational recovery in exchange relationships will seek to identify more of the postscriptive actions that can be taken by firms to overcome disruptions.

There are two primary takeaways from the literature. First, we can identify from the recovery mechanisms described above that recovery actions typically require the involvement of both parties to the exchange. The definitions of conflict resolution and exchange communication identify that participation of both the buyer and seller are a pre-requisite for effective recovery. Second, we can also glean that the timing of recovery seems to be important, to the extent that it is helpful to almost always be in a “recovery mode,” communicating frequently and trying to identify disruptive events early, before they grow too large.

## **Business-to-Consumer Domain**

Where the relationship governance literature helps to guide exchange relationships from a *prescriptive* perspective, research in the services domain is informative from a *postscriptive* perspective. The services literature rarely evaluates failure events in isolation. Rather, failure events are almost always assessed as service failure *and recovery* encounters, defined as “an exchange in which the customer experiences a loss due to the failure and the organization attempts to provide a gain in the form of a recovery effort, to make up for the customer’s loss” (Smith et al. 1999, p. 357). Service recoveries encompass the actions taken by a service provider in response to a service failure (Gronroos 1988), with the intention of restoring any losses incurred by the customer as a result of the failure (Dong, Evans, and Zou 2003). Many service providers have a plan of action already in place to address failures when they happen, known as

recovery strategies. A recovery strategy refers to an organization's preference to respond to failures using specific types of recovery mechanisms over other alternatives (Gonzalez, Hoffman, Ingram, and LaForge 2010). The literature identifies five different forms of recovery strategies: 1) compensatory strategies in which some form of compensation (gratis, discount, upgrades, etc.) are given to the customer experiencing the failure, 2) restoration strategies in which the product or service is replaced or corrected in some manner, 3) apologetic strategies in which the organization apologizes to the customer, 4) reimbursement strategies in which a refund is granted and the product is returned, and 5) unresponsive strategies in which the organization fails to acknowledge the failure or complaint – essentially a “no response” strategy (Gonzalez, Hoffman and Ingram 2005; Gonzalez et al. 2010). Importantly, these strategies can be used in isolation or in tandem, depending on the nature and severity of the failure that occurred. For instance, less severe failures, such as a slight service delay, are often addressed with a simple apologetic strategy. In contrast, more severe failures, such as damaged or missing product shipments, may require a combination of strategies, such as an apology and some form of compensation. Bell and Zemke (1987) illustrate the idea of combining strategies to deliver effective recoveries, suggesting that the “recipe for recovery” includes five “ingredients” – an apology, urgent reinstatement (restoration), empathy, symbolic atonement, and follow-up (compensation or reimbursement).

Service recoveries have been assessed in the literature with respect to several important dimensions. The first dimension is response speed, defined as the perceived speed with which the organization causing the failure initiates the recovery process (Davidow 2003). Generally, the more prompt the response, the more positive the recovery is viewed by the aggrieved party (Smith and Bolton 2002). A second dimension that is assessed in the recovery process is how the recovery was initiated. Just as causal attributions are typically assessed during the disruption, attributions can also be made with respect to the recovery. After a failure has been identified, the recovery process can either be initiated by the organization that committed the failure, or it can be initiated by the party experiencing the failure in the form of a complaint. Findings demonstrate that organization-initiated recoveries are viewed more positively compared to when customers have to file a complaint to begin the recovery process (Jones et al. 2011; Smith and Bolton 2002). Beyond evaluating who initiated the recovery, the literature indicates that attributions are made regarding which parties were involved in the recovery process, at any point in time. This element has received increasing attention in the literature over the past several years. Firm recoveries are those in which the recovery efforts are made almost entirely by the firm that committed the failure, customer recoveries are those in which the customer that experienced the failure was responsible for most of the recovery actions, and joint recoveries are those in which both the firm and customer participate equally in the recovery efforts (Dong et al. 2008; Roggeveen, Tsiros, and Grewal 2012).

Two predominant theories have been applied to understand recovery in the services literature. The first is expectancy theory, which is also instrumental in the assessment of the disruption as described above. Just as customers have a priori expectations of the service that are evaluated relative to the actual service provision during the failure phase of a service failure encounter, customers also have certain expectations of the recovery that should follow the disruption. These expectations arise in light of previous recoveries that have been granted in former service encounters and with respect to an appraisal of the elements related to the current failure experienced, including the cause and magnitude of the failure. Customers compare the recovery received to the expectations they had for the recovery to determine their overall

satisfaction with the recovery outcome. Recovery disconfirmation occurs when there is a discrepancy between the customer's recovery expectations and the actual recovery performance (McCollough et al. 2000). The second theory applied to recoveries, justice theory, is used to understand customer responses to recoveries after they have been completed. In its simplest form, justice theory suggests that people expect to receive fairness in their outcomes (Deutsch 1985; Gelbrich and Roschk 2011b). With respect to service failure and recovery encounters, justice perceptions then are a customer's subjective evaluations of an organization's response to the failure (Gelbrich and Roschk 2011a). Justice theory indicates that there are three different forms of justice that are assessed. The first is distributive justice, which refers to the customer's perceived fairness of an outcome in an exchange (Tax, Brown, and Chandrashekar 1998). The second form of justice assessed is interactional justice, which is an assessment by the customer of how they were treated during the course of the exchange (Bies and Shapiro 1987; Gelbrich and Roschk 2011a). Finally, procedural justice concerns the fairness of the processes or means used to determine the distribution of outputs (McCollough et al. 2000; Smith and Bolton 2002). Perceptions of each form of justice are often assessed as an explanatory variable that influences downstream measures such as satisfaction, loyalty, and customer word-of-mouth.

The services literature is especially useful in our development of a conceptualization of relational recovery as it helps to address the significant gaps that exist in the B2B exchange literature currently. The services literature identifies that a number of recovery strategies exist that can be employed in isolation or in tandem to address relational disruptions. Further, the services literature advances a number of dimensions through which recoveries can be assessed, including speed, initiation, and attribution for the recovery. These dimensions can be included in our conceptualization to develop a more complete understanding of relational recovery. Finally, the application of expectancy theory to assessing post-disruption recoveries indicates that norms might also play an important role in the recovery process, just as they do during the course of disruption.

In sum, substantial knowledge exists in the literature to begin addressing our two primary research questions concerning relational disruption and recovery. However, as previously indicated, this literature is highly fragmented in its current state. The B2B exchange literature has only recently begun to expand its knowledge base concerning the various forms of disruption that can threaten the value created by exchange relationships. And yet, it is clear that more research is necessary in this domain to understand 1) the full range of disruptive events that occur in relational exchanges 2) the full range of recovery strategies that can be implemented to overcome disruptive events and salvage relationship value and 3) how relational disruptions and recoveries should be assessed in terms of different dimensions that moderate the impact of these incidents on downstream measures (i.e. causal attributions, magnitude, and expectations). In light of these knowledge gaps in the B2B domain, insights can be drawn from the B2C domain to guide future research on relational disruption and recovery. The service failure and recovery literature has developed a well-established conceptual framework for assessing disruption in B2C exchanges. However, the services literature can only serve as a guide; primary research is required to adequately investigate our three research questions. Thus, borrowing heavily from the services framework, we developed an exploratory research survey aimed at gaining initial insights into how relational disruptions and recoveries unfold in B2B exchanges. In the next section we detail the procedure used to address our research questions and disclose our survey findings.

## METHODOLOGY

### **Critical Incident Technique**

We devised a survey consisting of both qualitative and quantitative items to assess our research questions concerning how exchange relationships become disrupted, how relationships can be recovered following a disruption, and the role played by norms in both the disruption and recovery episodes. First, the critical incident technique (CIT) was used to gather descriptive responses of memorable exchange relationship disruptions experienced by participants in their careers. This technique has been used many times for the purpose of studying disruption-related events in the B2C domain, including by: Bitner et al. (1990, *Journal of Marketing*) to explore what distinguishes satisfactory service encounters from dissatisfactory service encounters from the customer's perspective; Kelley et al. (1993, *Journal of Retailing*) to develop a typology of retail failure and recovery strategies; Bitner, Booms, and Mohr (1994, *Journal of Marketing*) to investigate what distinguishes satisfactory service encounters from dissatisfactory service encounters from the service firm's perspective; Keaveney (1995, *Journal of Marketing*) to investigate critical service incidents that lead to customer switching behaviors; and Tax et al. (1998, *Journal of Marketing*) to examine how customer evaluations of complaint handling by service firms affects customer satisfaction, trust, and commitment. The technique has been used in B2B domain, as well. For instance, by: van Doorn and Verhoef (2008, *Journal of Marketing*) to develop a model of the effects of negative critical incidents on customer loyalty in B2B relationships; and Schurr (2007, *Journal of Business and Industrial Marketing*) to identify critical interaction episodes in business relationships that either strengthen or fatally weaken relationship development. After describing in as much detail as possible the memorable incident, participants responded to a series of follow-up questions regarding the incident described, including open-response, categorical, and metric response items. For exploratory research questions, such as those we have developed in the present research, utilizing a mixture of qualitative and quantitative items in the survey instrument provides richer information that can be analyzed using multiple techniques (such as content analysis for the open response data and regression analysis for the metric response data) resulting in a better understanding of the phenomenon under investigation.

### **Data Collection and Participants**

The survey was administered to participants using an online survey tool. An initial screening question was presented to participants to make sure that they had the requisite B2B experience before allowing them to proceed to take the survey. Next, all participants were presented with a brief definition and general description of relationship disruptions before asking them to describe a memorable disruption incident. Following procedures adapted from Bitner et al. (1990 and 1994) and Kelley et al. (1993), participants were randomly assigned to one of two conditions at the outset of the survey – they were either asked to recall a memorable disruption that was followed by a *good* recovery or a memorable disruption that was followed by a *poor* recovery. All participants then responded to the same set of questions, although small wording changes were made to items where appropriate to reflect either the good or poor recovery condition to which the participant was assigned. The full set of measures, including both open-response and metric-response items, can be found in Appendix A.

Participants were recruited to participate in the study using a referral sampling method similar to those employed by Bitner et al. (1990, 1994) and Kelley et al. (1993). Specifically, more than 90% of the sample was recruited through undergraduate student referrals in exchange for course credit. The remaining participants were recruited through the professional networks of the research team. The final sample included 654 adults with current or previous experience working in B2B exchanges as either a member of a buying firm or a selling firm, of which 55.7% were members of the buying firm in the incident recalled, 36.9% were members of the selling firm, and 7.4% did not disclose. The typical respondent was male (55%), over the age of 45 (64.1%), had more than five years of experience in his current position (69.5%), and indicated that he interacted frequently with members of other firms (76.2%). Below, we present the results of our empirical analysis.

## RESULTS AND DISCUSSION

Below, we report the results of our data analysis and explain how those results begin to answer our three research questions. To help organize our findings, we present and analyze each research question in turn. As indicated in the methodology, all measures were gathered subsequent to the writing about a relational disruption that occurred in the B2B domain. For each question, we first provide a summary of the measures used to assess the research question, followed by the presentation of the findings, a brief interpretation of the results, and finally an acknowledgement of any limitations and how those limitations will be addressed in future research.

RQ #1. What types of relationship disruptions occur in exchange relationships and how frequently do they occur?

### **RQ1: Procedure and Measures**

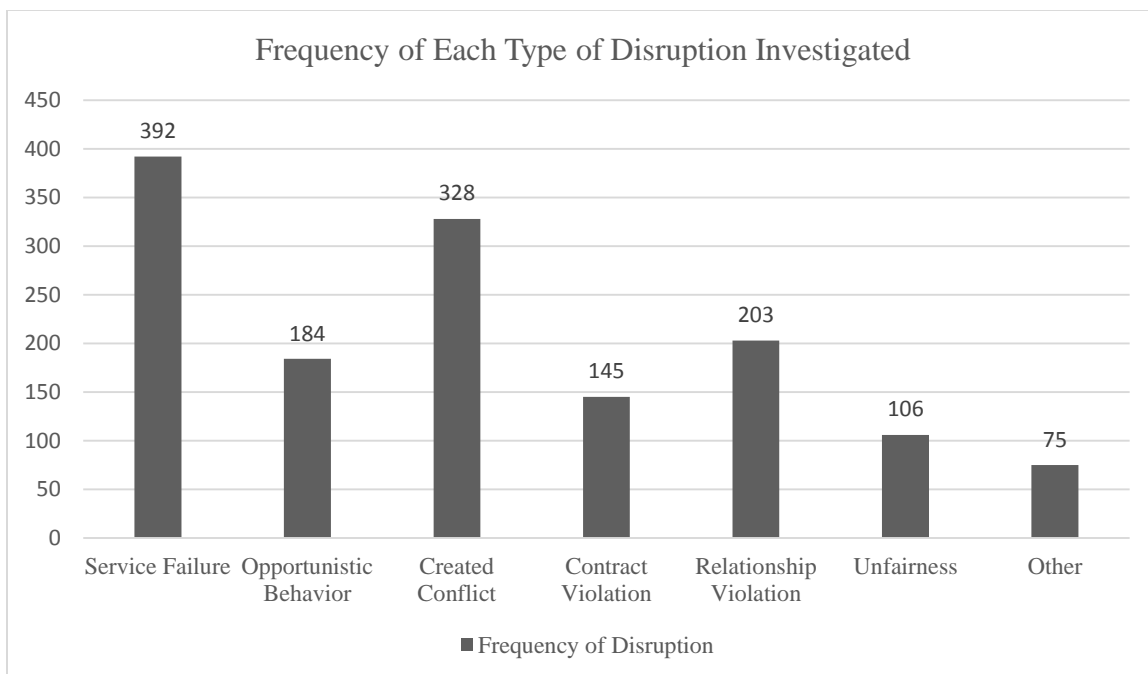
We asked respondents to categorize the disruption by choosing from a list of general *types of disruptions* that have been identified in the exchange relationship and service failure literatures<sup>2</sup>. Importantly, respondents were able to select more than one category if more than one applied (i.e. respondents could classify a single disruptive event as both an instance of service failure and an instance of a relational norm violation if they felt both occurred during the course of the disruption). Each disruption category included a one-sentence description of the disruption to help respondents choose the most appropriate categories. In total, there were six general forms of disruption that the participant could choose from, including service failures, opportunistic behavior, conflict, contract violations, relationship violations, and unfairness. Additionally, respondents could also choose from an “other” category in which they were provided the option of typing in a description of the incident if it did not align with the other six choices. Descriptions of the categories are in Appendix B.

---

<sup>2</sup> Because we asked participants to describe a memorable incident using an open-response format, we have textual data to confirm the presence of the norms they self-selected.

## **RQ1: Findings**

To determine the *types of disruptions* that occur in exchange relationships, we first calculated simple frequencies for each disruption type identified by our respondents (see Figure 1). In total, the 654 disruptive incidents recalled by our sample were classified 1,433 times, for an average of 2.19 types of disruption categorized for each disruptive incident. In other words, most disruptive incidents are classified into more than one category of disruption identified in the literature. The findings revealed that the most prevalent form of disruption classification is service failure, with 59.9% (392/654) of the total disruption incidents classified as a service failure (see Figure 2). Conflict was the second at 50.2% (328/654). Together, service failures and conflict accounted for 50.2% (720/1433) of all of the classifications in our data. Relationship violations occurred in 31% of the disruptions, followed by opportunistic behaviors (28.1%), contract violations (22.2%), unfairness (16.2%), and other forms of disruption (11.5%) in descending order.

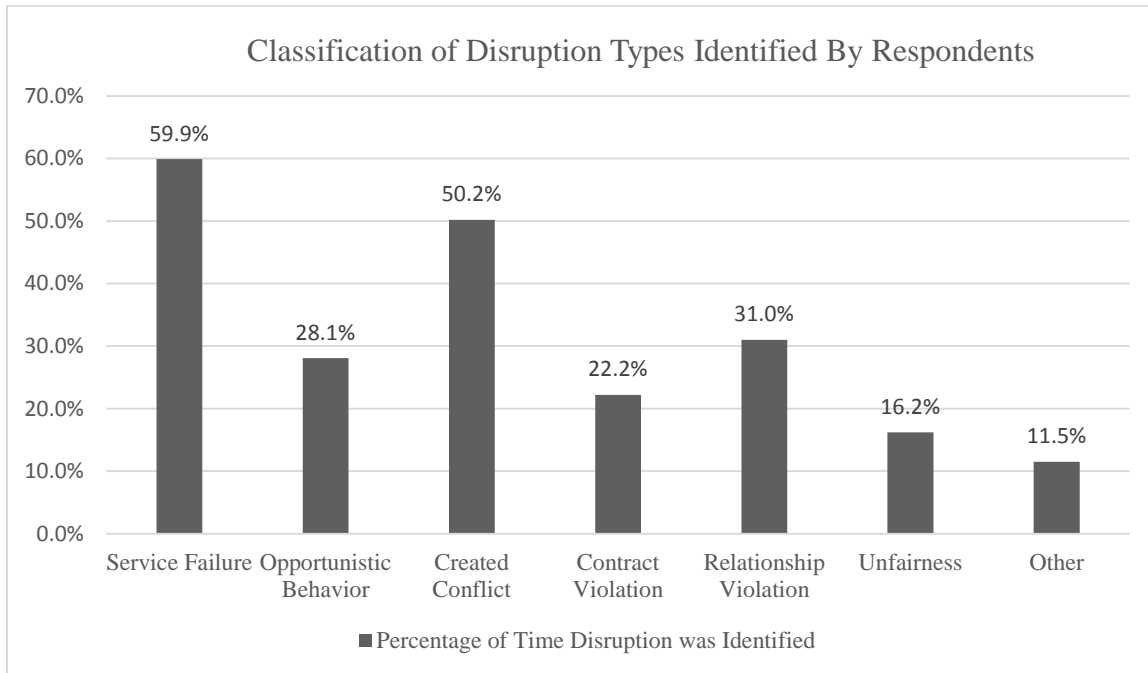


**Figure 1: Frequency Counts of Disruption Type**

## **RQ1: Interpretation of Findings**

These results help us to understand how prevalent the various *types of disruption* identified in the literature are in practice. While research has identified the effects of different forms of disruption on important outcome variables, the research has not assessed how common each form of disruption is in practice. For instance, it is both interesting and informative to learn that service failures, rarely discussed as a form of disruption in the B2B exchange literature, were identified as the most commonly occurring form of disruption in B2B exchanges according to our data. Further, we should note that unfairness, which has been identified as a critical “poisoning” variable in the exchange relationship literature (Samaha et al. 2011) occurs

relatively infrequently (only in 16.2% of the incidents) relative to other forms of disruption (though it should be noted that Samaha et al. (2011) only examined buyer perceptions of unfairness and did not solicit responses from sellers in their dataset). This indicates that while unfairness may be very impactful when it is perceived in relationships, it occurs somewhat infrequently according to our findings and thus may not be as critical as previously believed.



**Figure 2: Percentage of Time Each Type of Disruption Identified**

### **RQ1: Limitations and Future Research**

It should be acknowledged that a primary limitation of this investigation is that we have not yet been able to code the open-response data to determine the full spectrum of disruptive events mentioned by our respondents. Instead, at this juncture we are only able to analyze the self-categorization data from our survey in which respondents selected from a choice of six common forms of disruption identified in the literature. One question we are unable to answer as a result is whether additional forms of disruption exist, beyond those already identified in previous research. The open-response data, when we are able to analyze it, will allow us to determine if other forms of disruption exist in practice.

RQ #2. What role do norms play in relationship disruptions?

### **RQ2: Procedure and Measures**

After choosing from the general list of disruptions, respondents were asked to indicate if any of the nine *norms* presented were violated during the disruption, and, if so, the degree of impact. For each norm, respondents had the option of indicating that the norm violation “did not happen.” For those norms the respondent felt were applicable to the disruption incident being



recalled, respondents completed a 4-item metric scale that served to identify the degree of impact that the norm violation had on the exchange relationship (1 = no impact, 4 = high impact). The norms listed included the most prominent norms researched in the B2B and B2C domains, which is consistent with the literature reviews on disruptions presented earlier. Descriptions of those norms are also in Appendix C. To aid respondents in determining if each norm violation was applicable, we provided respondents with a short description of each norm violation rather than simply providing construct names (i.e. a violation of the flexibility norm read “the exchange partner was inflexible...”). Additionally, we assessed the severity of the disruption using a single item, 5-point scale anchored with “not severe at all” and “very severe”. We also measured two different forms of value derived from relationships – economic value and relational value on five-point Likert scales. These items (severity and value) were used as outcome variables in regression analyses testing the impact of norm violations on the perceived severity of the disruption and the type of value perceived to be impacted by the disruption.

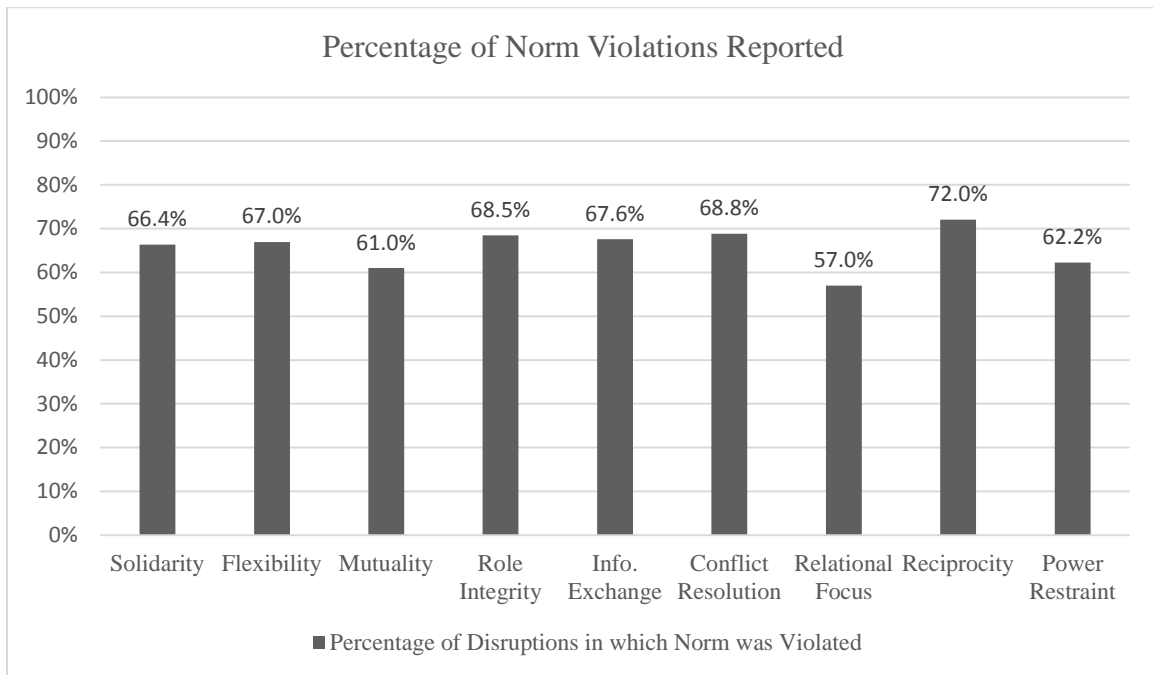
## **RQ2: Findings – Frequency Analysis**

We began our analysis by calculating the frequencies for each of the nine norms that were reported as violated during the disruption incidents recalled by respondents. We again removed respondents who indicated that a given exchange norm “did not happen” in the disruption that they experienced. Across our sample of 654 disruptions, respondents indicated a total of 3,862 exchange norm violations experienced, or approximately 5.9 exchange norms violated per disruptive incident. To further refine the data, we ran additional analyses using only those exchange norms that respondents indicated were violated in their described incident, leaving only violations that registered as at least a “slight” impact on the exchange relationship in the data (scoring 2 through 4 on the 4-item metric scale). This brought the total number of norm violations down to 3,100, or approximately 4.74 norm violations per disruption. Interestingly, our findings indicated that each of the nine norms was violated with approximately the same frequency (see Figure 3). Reciprocity was the norm violated most frequently, identified as having been violated in 72% (471/654) of the total disruptions reported. Conflict resolution was the next most frequently reported norm violation at 68.8%, followed closely by role integrity at 68.5%, information exchange (67.6%), flexibility (67.0%), and solidarity (66.4%). In contrast, the least frequently violated norm reported was relational focus, which was still reported as being violated in 57% (373/654) of the disruptive incidents recalled. As a second form of analysis, we also assessed the data by calculating metric averages of the impact each norm violation had on the exchange relationship (see Figure 4). Interestingly, when the data was assessed in this fashion, we found that violations of the solidarity norm had the greatest impact on the exchange relationship, with a value of 2.8 out of 4.0, or a relatively moderate impact. Violations of information exchange (2.74) and role integrity (2.73) were found to be the next most impactful violations on the relationship. Relational focus was again found to be the least impactful norm violation analyzing the data this way (2.6).

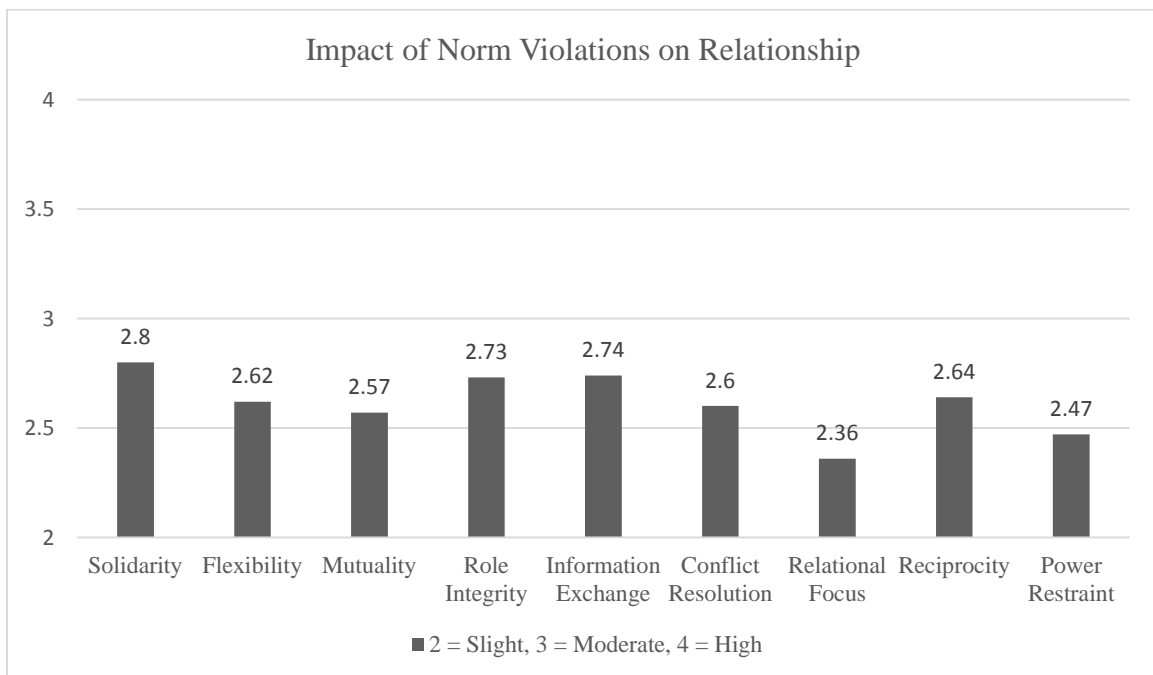
## **RQ2: Findings – Regression Analysis**

Our understanding of how norms function in disruption incidents was further enhanced by the findings from our regression analyses. First, using a stepwise regression technique, we found that three of the nine exchange norm violations have a significant impact on perceptions of

disruption severity. Role integrity had the strongest impact of the three ( $B = .156, t = 5.13, p < .001$ ), followed by reciprocity ( $B = .115, t = 3.64, p < .001$ ), and relational focus ( $B = -.071, t = -2.08, p < .05$ ). Second, we ran another stepwise regression to assess the impact of norm



**Figure 3: Percentage of Norm Violations Reported**



**Figure 4: Impact of Norm Violations on Exchange Relationship**

violations on perceptions of the economic and relational value created by exchange relationships. With respect to economic value, the findings indicated that information exchange ( $B = .186, t = 4.70, p < .001$ ), reciprocity ( $B = .104, t = 2.23, p < .05$ ), and restraint of power ( $B = .10, t = 2.05, p < .05$ ), were the most value damaging norm violations. With respect to relational value, we found that two of the same threats to economic value – violations of information exchange ( $B = .163, t = 3.67, p < .001$ ) and reciprocity ( $B = .140, t = 3.53, p < .001$ ) – also impact relational value. Additionally, role integrity was also determined to have a significant impact on relational value ( $B = .103, t = 2.17, p < .05$ ).

## **RQ2: Interpretation of Findings**

The results of our analysis lend insight as to which norms are commonly violated in relational disruptions. To begin, observing the results of the frequency analysis it is striking that the typical disruption incident includes an average of almost six norm violations, with nearly five of those norm violations registering at least a “slight” impact on the health of the exchange relationship. This finding is not entirely surprising as it is consistent with the relational norm literature which has identified relational norms as a second-order construct consisting of other individual relational norms (Heide and John 1992). However, it is surprising to learn how sensitive customers are to norm violations and that they are able to discern as many as five or six as contributing to exchange relationship disruptions.

Turning to the results of our regression analysis, we learn that subsets of these norms are more “disruptive” compared to others. The norm of reciprocity has mixed support in the literature as one of the more instrumental norms for exchange relationships and is not one of the traditional “relational norms” identified in the exchange literature. However, our findings indicate its relevance in relational disruptions, lending support to social exchange theory. In fact, it significantly influenced all three dependent variables assessed – disruption severity, economic value, and relational value. Our findings support of the relevance of reciprocity to exchange relationships is reflected in the definition of *exchange relationship* furnished by Wan, Hui, and Wyer Jr. (2011) which states that transactions in such relationships are governed by “quid pro quo” (p. 261). Thus, our finding that reciprocity seems to play an integral role in creating relationship disruptions, more than other “relational norms” that have received so much attention in the literature, is notable. It is a testament to why more research is required to address the gap in the literature regarding how exchange relationships move from stage 4 maturity to stage 5 dissolution in the Dwyer et al. (1987) relationship lifecycle framework, which is the primary purpose of this current research.

## **RQ2: Limitations and Future Research**

A primary limitation of our method assessing the role of norm violations in relationship disruptions is that we have not yet been able to assess whether individual norm violations are more or less prevalent in a given type of disruption. For instance, it would be informative if we could ascertain that violations of the solidary norm were often associated with opportunism, whereas violations of the flexibility norm were often associated with perceptions of unfairness. The way our data is organized at this point we are not able to correlate these measures. However, further refinement of the data may allow us to investigate these associations in the future.

Further, content analysis of the open-response data may also allow us to draw conclusions about these associations.

RQ3. How can firms attempt to recover from relationship disruptions and what role do norms play in this process?

### **RQ3: Procedure and Measures**

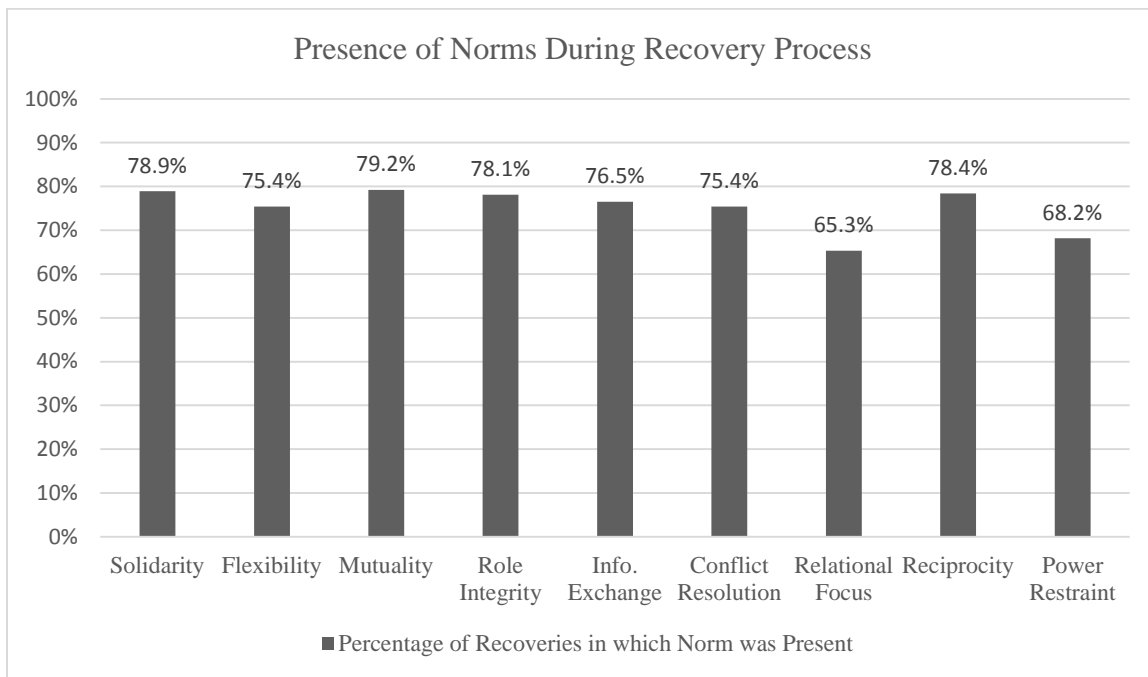
Whereas our first two research questions sought to address questions related to relationship disruptions, our third research question focuses on post-disruption recovery. Specifically, we strive to identify which methods firms use in their attempts to recover from disruptions, with an emphasis on determining what role relational norms play in the recovery process. To address this research question we followed a similar procedure to the one used to address our first two research questions. First, we asked respondents to assess the presence of norms during the disruption and recovery encounter they recalled. This time, instead of identifying which norms were violated, we asked respondents to indicate which norms they felt were present during the recovery process and how much impact adherence to these norms had on the exchange relationship. Respondents again assessed nine norms using the same 4-point metric scale anchored by “no impact” and “high impact” that was previously used to assess the impact of norm violations on the relationship. Additionally, respondents could again indicate that the norm “did not happen” if the norm was not present during the recovery process being recalled.

Next, we used regression analysis to test how the presence of norms during the recovery process impacted respondent’s perceptions of the quality of the recovery. Norm violations served as the independent variable and were measured using the same items and scales described above. Quality of the recovery served as the dependent measure and was assessed using a single-item measure - “how well did the other company do in its attempt to correct the disruption?” – on a five-point scale anchored by “very poor” and “excellent.” Importantly, to assess the relationship between the presence of norms during the recovery and perceptions of service recovery quality, we ran the same regression on three different sets of our data. In the first regression, we used the entire dataset consisting of all 654 responses. In the second regression, we only included respondents that were asked to recall a disruption that featured a *good* recovery and removed those that were asked to recall a disruption that featured a poor recovery. Finally, in the third regression, we only included responses featuring a *poor* recovery, removing those that featured a good recovery. Analyzing the data in this fashion allowed us to determine if different norms were more salient in good recoveries compared to poor recoveries.

### **RQ3: Findings – Frequency Analysis**

Our analysis began by assessing the frequencies with which each of the norms was reported as being present (adhered to) during the post-disruption recovery process. Following the same procedure that we used for assessing norm violations, we removed respondents who indicated that the norm “did not happen” in the recovery process. Our results indicated that, in aggregate, a total of 4,417 norms were present during the recovery process of the 654 disruptions identified in our sample, or approximately 6.75 norms present during each recovery on average. We further refined the data to examine only the cases in which norms were reported as registering a slight impact or higher on the exchange relationship (removing cases in which

norms were identified as being present during the recovery, but that did not have an impact on the relationship). This brought the total number of cases down to 3,621, or 5.54 norms present during each recovery on average. Examining the frequencies of each of the norms at the time of recovery reveals that each of the nine norms is present with roughly the same frequency, a result similar to that found with norm violations (see Figure 5). Mutuality (79.2%), solidarity (78.9%), reciprocity (78.4%), and role integrity (78.1%) were the four most frequently cited norms during the recovery process, with all four being identified at nearly the same rate. Relational focus (65.3%) was the norm reported as least common during the recovery process, although it is worth noting that it was still present in roughly two-thirds of the disruption and recovery incidents reported.



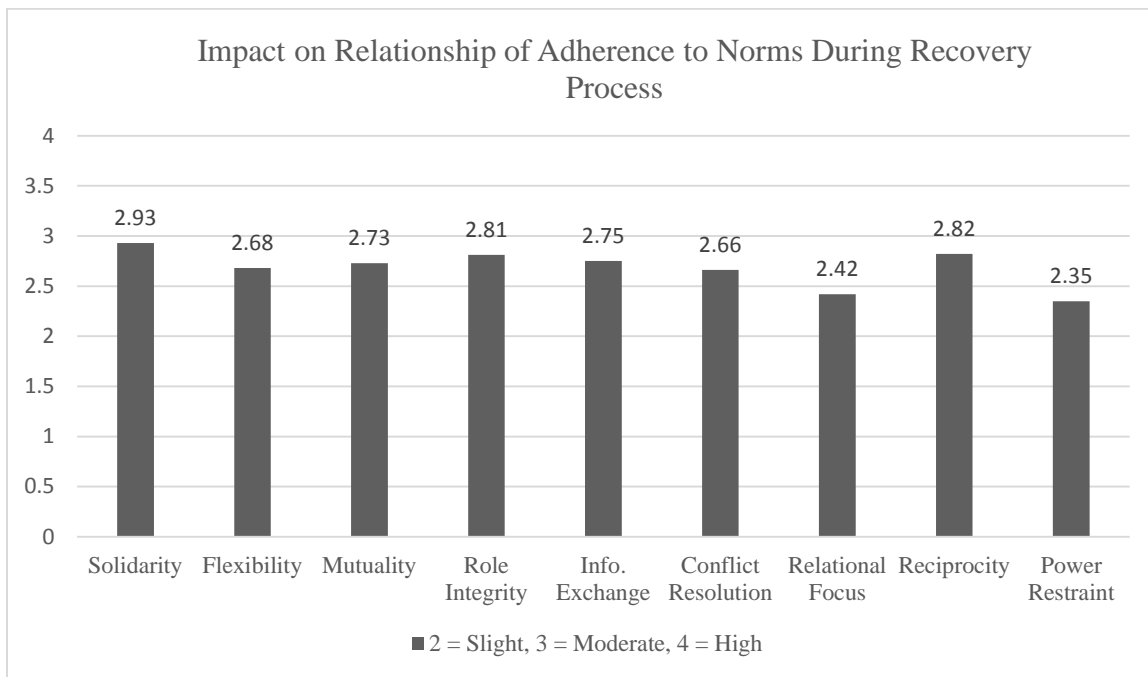
**Figure 5: Percentage of Time Norms Reported in Recovery Process**

To gain a richer understanding of how norms operate in the recovery process, we calculated the average impact that each norm had on the exchange relationship, owing to its presence in the recovery process (see Figure 6). Examining the averages yields similar findings to the frequency data, although solidarity (2.93) is identified as the most impactful norm during the recovery process and power restraint (2.35) is identified as the least impactful.

### **RQ3: Findings – Regression Analysis**

Our investigation of the role played by norms during the recovery process also included determining how norms influence perceptions of the quality of the recovery. The findings using a stepwise regression method analyzing the complete dataset reveal that three of the nine norms have a significant impact on respondent's evaluations of recovery quality when they are present during the recovery process. Reciprocity ( $B = .386, t = 2.18, p < .05$ ), solidarity ( $B = .378, t = 2.08, p < .05$ ), and flexibility ( $B = .344, t = 2.06, p < .05$ ) were the three norms found to have a

significant impact on the relationship when they are present during the recovery process. Interestingly, upon closer examination we find that different norms influence the exchange relationship dependent upon whether respondents were in the “good” or “poor” recovery condition. In the “good” recovery condition, our results from a stepwise regression analysis indicate that four norms – solidarity ( $B = .901, t = 5.05, p < .001$ ), flexibility ( $B = .533, t = 3.43, p < .01$ ), mutuality ( $B = -.447, t = -2.70, p < .01$ ), and reciprocity ( $B = .426, t = 2.51, p < .05$ ) – exert a significant influence on the relationship when they are present during the recovery process. Conversely, in the “poor” recovery condition two different norms than those previously discovered – role integrity ( $B = .743, t = 3.65, p < .001$ ) and power restraint ( $B = .468, t = 2.18, p < .05$ ) were found to have a significant influence on the relationship.



**Figure 6: Impact of Adherence to Norms in Recovery on Exchange Relationship**

### **RQ3: Interpretation of Findings**

The above findings illustrating the role that norms play in the recovery process are interesting, especially when considered in tandem with our findings regarding the role norm violations play in relationship disruptions. Our findings for the role that norms play in recovery are similar to those found for the role played by norms in disruption. In both cases it was surprising to learn how many norms are operating during a given exchange disruption and recovery encounter. Perhaps even more surprising is that the data suggests that there are more norms present (being enacted) during recovery attempts following a disruption (6.75 on average) than there are being violated during the disruption (5.9 on average). These findings support the relational governance literature indicating that shared expectations of behavior (norms) are critical for cultivating and maintaining exchange relationships (Heide and John 1992; Macneil 1980). Further, these findings help to build on the existing literature by conducting the first empirical investigation of the role played by norms in the recovery process.

The results of the regression analysis are insightful when we examine the differences in the sets of norms that emerged when we considered different conditions in isolation. In the “good” recovery condition, of the four norms that were identified as driving evaluations of recovery quality, three of them (solidarity, flexibility, and mutuality) are among the most commonly cited “relational norms” in the literature. More interestingly, reciprocity was the other norm found to be instrumental to recovery quality. This lends more support to the importance of the reciprocity norm to exchange relationships. Further, it is also interesting to note that two different norms emerged as having a significant impact on recovery quality in the “poor” recovery condition. We found that when the overall recovery effort was perceived to be poor, the presence of role integrity and power restraint served to attenuate the negative perceptions of the recovery.

### **RQ3: Limitations and Future Research**

A limitation of our procedure to identify the elements that contribute to successful recoveries in exchange relationships was a failure to include a categorical variable assessing what type of recovery strategy (i.e. apology, reimbursement, compensation, mixed strategies, etc.) were used in the incidents described by our respondents. We have captured this data in the open-response format, but we have not yet had the opportunity to content analyze that data. Thus, though our findings help to illustrate the critical role played by norms during the recovery process, we do not have sufficient data to identify the different *types of recovery strategies* that are employed. Future versions of the survey instrument will need to be updated to account for this oversight.

## **CONCLUSION**

The purpose of this essay was to address three primary research questions of: (1) What types of relationship disruptions occur in exchange relationships and how frequently do they occur? (2) Following disruptions, how can firms attempt to recover and salvage exchange relationships? and (3) What role do norms play in relational disruptions and recoveries? Our findings add to the current knowledge in the literature regarding what types of disruptions occur, how disruptive events affect exchange relationships and how these disruptions may be recovered to salvage the relationship, allowing us to draw a few important conclusions. In light of our findings, and building on our synthesis of the previous knowledge in both the B2B and B2C literature reviewed, we can construct a new and more fully formed conceptualization of relational disruption and relational recovery. Below we introduce our updated conceptualizations of each construct, highlighting where our findings have contributed to the revised definitions. We note that these working conceptualizations of both relational disruptions and relational recoveries stem from three primary research questions this current research sought to address.

### **Relational Disruptions**

Our review of the existing literature in the B2B domain suggested that relational disruptions could be defined as conduct by a party or events that weaken, undermine, or severely damage an exchange relationship. This definition is a good beginning, but our review of the B2C services literature and our own primary research suggests that this definition can be broadened

into a more comprehensive conceptualization of the construct. To begin, our review of the both the service failure and the exchange literature indicate that violations of norms play a central role in the disruption process. It is notable that while the B2B exchange literature identifies relational norms as a critical governance mechanism in the formation and maintenance of relationships, this literature does not fully explore how violations of these norms contributes to disruptive events within the relationship (Harmeling et al. 2015 representing an exception). Our findings from our survey also support the idea that norm violations (or disconfirmed expectations) play a vital role in relational disruptions. Thus, we suggest that the conceptualization of relational disruptions should be broadened to include the language “conduct by a party or events that violate shared expectations about behavior (norms) and weaken, undermine, or severely damage an exchange relationship.”

Further, both the services literature and the exchange literature indicate that we should include certain dimensions that serve to moderate how much damage relational disruptions cause to the exchange relationship in our conceptualization. Specifically, both literature bases identify that disruptions should be assessed in terms of severity and attributions for the disruption, as these dimensions of the disruption are indicators of how much damage the disruption will cause to the relationship. In our revised conceptualization of relational disruption we posit that disruptions can be of any size or magnitude. That is, in our conceptualization, a shipment that arrives a day late is a disruption, the same as a shipment that arrives a week late and contains broken product. Though these are clearly different in terms of the severity of the disruption, and thus would be expected to damage the relationship to a different degree, they are both forms of disruption nonetheless. Additionally, our conceptualization of relational disruption allows that disruptions can be intentional or unintentional, controllable or uncontrollable. That is, when trying to make attributions for a disruption, it is possible that the disruption was simply a mistake or was beyond anyone’s control. This differs from previous conceptualizations of disruption events in the exchange literature, such as Williamson’s (1975) conceptualization of opportunism as including “guile” which infers that the disruption is both controllable and intentional. In sum, based on the literature and our empirical study, we recommend the following definition of relational disruptions: “intentional or unintentional conduct by a party or controllable or uncontrollable events that violate shared expectations about behavior (norms) and weaken, undermine, or severely damage an exchange relationship.”

### **Relational Recovery**

Upon reviewing the scant research addressing recovery actions in the B2B exchange literature, we suggested that relational recovery be temporarily conceptualized as ongoing actions taken by firms to swiftly respond to relational disruptions in the exchange relationship, including communicating with the exchange partner, apologizing to the exchange partner for violations, and/or offering the exchange partner financial compensation to rectify issues. It is in addressing issues of relational recovery that the exchange literature is most deficient. There does not exist a construct in the literature that speaks directly to “recovery” from disruptive events, although communication and conflict resolution represent *forms* of recovery. To improve upon this conceptualization, we need to first distinguish what a recovery is, globally, rather than defining it in terms of different forms of recovery. That is, we need to simplify the current definition.



To begin the process of conceptualizing relational recovery, we can use insights from our review of the services literature. First, the definitions of recovery reviewed in the services literature indicate that recoveries are actions that “restore a loss” for the party that experienced the disruption. As our new conceptualization of relational disruption indicates that disruptions cause “damage” to exchange relationships, we can adapt the idea of “restoring a loss” into a revised conceptualization of recovery and include the language “repairing damage.” Second, our review of the services literature once again found that norms, in the form of expectations of recovery, are critical to the recovery process. Our survey findings also support that norms can play an important role in the recovery process, just as they do in cases of disruption. Thus, including these two aspects of repairing damage and norms into a revised conceptualization, we suggest the definition of relational recovery include actions taken by an exchange party following a disruption in an attempt to repair damage to the satisfaction of an exchange partner’s expectations. Additionally, both the service literature and the exchange literature identify that different strategies exist for recovering from disruptions, including apologies, reimbursements, and compensation. Including these different strategies, we can revise the conceptualization of relational recovery to stipulate that common recovery strategies include apologizing to the exchange party, reimbursing the exchange party the amount of that which was lost, compensating the exchange party with value above that which was lost, or any combination of the above. Lastly, the services literature identifies dimensions of recovery that contribute to how well the recovery is received by the party experiencing the disruption, specifically pointing to the speed of the recovery and the attribution of initiation and responsibility for the recovery. Including these dimensions, we can update the conceptualization to include that *relational recoveries* 1) vary in terms of how quickly remedies are introduced; 2) can be initiated by either party in the relationship; and 3) can include the participation of both parties in completing the recovery, either working together or in isolation. In sum, based on the literature and our empirical study, we recommend the following definition of relational recoveries: “actions taken by an exchange party following a disruption in an attempt to repair damage to the satisfaction of an exchange partner’s expectations, including apologies, reimbursements, and other forms of compensation.”

The research presented here in Essay 1, including the review of the relevant literature in the B2B and B2C domains and the exploratory research findings, will be used to inform the development of Essays 2 and 3. In Essay 2, we analyze a secondary data set to determine what impact seller-caused relational disruptions have on the seller’s financial performance. Drawing from our research in Essay 1, we are able to select the most appropriate variables from the dataset for inclusion in our Essay 2 analysis. Additionally, our research here, generating a thorough understanding of how disruptive events are currently conceived in the literature, helps with the interpretation of the empirical findings in Essay 2. The research conducted in Essay 1 was even more useful to construct the primary research instrument administered to collect data for Essay 3. The knowledge gained from Essay 1 in terms of the important dimensions that factor into relational disruption and recovery encounters, including the range of disruption and recovery types and the role that norms play throughout the process, allowed us to generate a more complete and theoretically derived research instrument.

## REFERENCES

- Aaker, Jennifer, Susan Fournier, and S. Adam Brasel (2004), "When Good Brands Do Bad," *Journal of Consumer Research*, 31 (1), 1-16.
- Achrol, Ravi S. and Gregory T. Gundlach (1999), "Legal and Social Safeguards Against Opportunism in Exchange," *Journal of Retailing*, 75 (1), 107-124.
- Alderson, Wroe (1958), "Advertising Strategy and Theories of Motivation," *Motivation and Market Behavior*, 11-20.
- (1965). *Dynamic Marketing Behavior: A Functionalist Theory of Marketing*. Homewood, IL: RD Irwin.
- Anderson, James C. and James A. Narus (1990), "A Model of Distributor Firm and Manufacturer Firm Working Partnerships," *Journal of Marketing*, 54 (1), 42-58.
- Antia, Kersi D. and Gary L. Frazier (2001), "The Severity of Contract Enforcement in Interfirm Channel Relationships," *Journal of Marketing*, 65 (4), 67-81.
- Arndt, Johan (1979), "Toward a Concept of Domesticated Markets," *Journal of Marketing*, 43 (4), 69-75.
- Bagozzi, Richard P. (1975), "Marketing As Exchange," *The Journal of Marketing*, 39 (4), 32-39.
- Bell, Chip R. and Ron E. Zemke (1987), "Service Breakdown: The Road to Recovery," *Management Review*, 76 (10), 32-35.
- Bello, Daniel C., Cristian Chelariu, and Li Zhang (2003), "The Antecedents and Performance Consequences of Relationalism in Export Distribution Channels," *Journal of Business Research*, 56 (1), 1-16.
- Bendapudi, Neeli and Leonard L. Berry (1997), "Customers' Motivations for Maintaining Relationships with Service Providers," *Journal of Retailing*, 73 (1), 15-37.
- Bies, Robert J. and Debra L. Shapiro (1987), "Interactional Fairness Judgments: The Influence of Causal Accounts," *Social Justice Research*, 1 (2), 199-218.
- Bitner, Mary Jo, Bernard H. Booms, and Lois A. Mohr (1994), "Critical Service Encounters: The Employee's Viewpoint," *Journal of Marketing*, 58 (4), 95-106.
- , -----, and Mary Stanfield Tetreault (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents," *Journal of Marketing*, 54 (1), 71-84.
- Blau, Peter Michael (1964). *Exchange and Power in Social Life*. Transaction Publishers.

- Boulding, William, Ajay Kalra, Richard Staelin, and Valerie A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, 30 (1), 7-27.
- Brown, James R., Chekitan S. Dev, and Dong-Jin Lee (2000), "Managing Marketing Channel Opportunism: The Efficacy of Alternative Governance Mechanisms," *Journal of Marketing*, 64 (2), 51-65.
- Cannon, Joseph P., Ravi S. Achrol, and Gregory T. Gundlach (2000), "Contracts, Norms, and Plural Form Governance," *Journal of the Academy of Marketing Science*, 28 (2), 180-194.
- Cao, Zhi and Fabrice Lumineau (2015), "Revisiting the Interplay Between Contractual and Relational Governance: A Qualitative and Meta-analytic Investigation," *Journal of Operations Management*, 33, 15-42.
- Cropanzano, Russell and Marie S. Mitchell (2005), "Social Exchange Theory: An Interdisciplinary Review," *Journal of Management*, 31 (6), 874-900.
- Dant, Rajiv P. and Patrick L. Schul (1992), "Conflict Resolution Processes in Contractual Channels of Distribution," *Journal of Marketing*, 56 (1), 38-54.
- Davidow, Moshe (2003), "Organizational Responses to Customer Complaints: What Works and What Doesn't," *Journal of Service Research*, 5 (3), 225-250.
- Deutsch, Morton (1985). *Distributive Justice*. New Haven, CT: Yale University Press.
- Dong, Beibei, Kenneth R. Evans, and Shaoming Zou (2008), "The Effects of Customer Participation in Co-created Service Recovery," *Journal of the Academy of Marketing Science*, 36 (1), 123-137.
- Dwyer, F. Robert, Paul H. Schurr, and Sejo Oh (1987), "Developing Buyer-Seller Relationships," *Journal of Marketing*, 51 (2), 11-27.
- Dyer, Jeffrey H. and Nile W. Hatch (2006), "Relation-specific Capabilities and Barriers to Knowledge Transfers: Creating Advantage through Network Relationships," *Strategic Management Journal*, 27 (8), 701-719.
- and Harbir Singh (1998), "The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage," *Academy of Management Review*, 23 (4), 660-679.
- Ferguson, Ronald J., Michèle Paulin, and Jasmin Bergeron (2005), "Contractual Governance, Relational Governance, and the Performance of Interfirm Service Exchanges: The Influence of Boundary-spanner Closeness," *Journal of the Academy of Marketing Science*, 33 (2), 217-234.

- Frazier, Gary L. (1983), "Interorganizational Exchange Behavior in Marketing Channels: A Broadened Perspective," *Journal of Marketing*, 47 (4), 68-78.
- Garbarino, Ellen and Mark S. Johnson (1999), "The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships," *Journal of Marketing*, 63 (2), 70-87.
- Gelbrich, Katja and Holger Roschk (2011a), "A Meta-analysis of Organizational Complaint Handling and Customer Responses," *Journal of Service Research*, 14 (1), 1-20.
- and ----- (2011b), "Do Complainants Appreciate Overcompensation? A Meta-analysis on the Effect of Simple Compensation vs. Overcompensation on Post-complaint Satisfaction," *Marketing Letters*, 22 (1), 31-47.
- Gonzalez, Gabriel R., K. Douglas Hoffman, and Thomas N. Ingram (2005), "Improving Relationship Selling Through Failure Analysis and Recovery Efforts: A Call to Action," *Journal of Personal Selling & Sales Management*, 25 (1), 57-65.
- , -----, -----, and Raymond W. LaForge (2010), "Sales Organization Recovery Management and Relationship Selling: A Conceptual Model and Empirical Test," *Journal of Personal Selling & Sales Management*, 30 (3), 223-237.
- Grégoire, Yany, Thomas M. Tripp, and Renaud Legoux (2009), "When Customer Love Turns into Lasting Hate: The Effects of Relationship Strength and Time on Customer Revenge and Avoidance," *Journal of Marketing*, 73 (6), 18-32.
- Gronroos, Christian (1988), "Service Quality: The Six Criteria of Good Perceived Service," *Review of Business*, 9 (3), 10.
- Gundlach, Gregory T. and Ravi S. Achrol (1993), "Governance in Exchange: Contract Law and its Alternatives," *Journal of Public Policy & Marketing*, 12 (2), 141-155.
- Hansen, John D., Donald J. Lund, Thomas E. DeCarlo, Lisa K. Scheer (2012), "The Effects of Relationship Role on Buyers' Responses to Relationship Failures and Recovery Efforts," *Research Reports, ISBM Reports*, Report 02-2012, 1-56.
- Harmeling, Colleen M., Robert W. Palmatier, Mark B. Houston, Mark J. Arnold, and Stephen A. Samaha (2015), "Transformational Relationship Events," *Journal of Marketing*, 79 (5), 39-62.
- Heide, Jan B. (1994), "Interorganizational Governance in Marketing Channels," *Journal of Marketing*, 58 (1), 71-85.
- and George John (1988), "The Role of Dependence Balancing in Safeguarding Transaction-specific Assets in Conventional Channels," *Journal of Marketing*, 52 (1), 20-35.

- and ----- (1992), "Do Norms Matter in Marketing Relationships?" *Journal of Marketing*, 56 (2), 32-44.
- Hess, Ronald L., Shankar Ganesan, and Noreen M. Klein (2003), "Service Failure and Recovery: The Impact of Relationship Factors on Customer Satisfaction," *Journal of the Academy of Marketing Science*, 31 (2), 127-145.
- Hibbard, Jonathan D., Nirmalya Kumar, and Louis W. Stern (2001), "Examining the Impact of Destructive Acts in Marketing Channel Relationships," *Journal of Marketing Research*, 38 (1), 45-61.
- Hoffman, K. Douglas., Scott W. Kelley, and Holly M. Rotalsky (1995), "Tracking Service Failures and Employee Recovery Efforts," *Journal of Services Marketing*, 9 (2), 49-61.
- Jones, Tim, Peter A. Dacin, and Shirley F. Taylor (2011), "Relational Damage and Relationship Repair: A New Look at Transgressions in Service Relationships," *Journal of Service Research*, 14 (3), 1-22.
- Kaufmann, Patrick J. and Rajiv P. Dant (1992), "The Dimensions of Commercial Exchange," *Marketing Letters*, 3 (2), 171-185.
- and Louis W. Stern (1988), "Relational Exchange Norms, Perceptions of Unfairness, and Retained Hostility in Commercial Litigation," *Journal of Conflict Resolution*, 32 (3), 534-552.
- Keaveney, Susan M. (1995), "Customer Switching Behavior in Service Industries: An Exploratory Study," *Journal of Marketing*, 59 (2), 71-82.
- Kelley, Scott W., K. Douglas Hoffman, and Mark A. Davis (1993), "A Typology of Retail Failures and Recoveries," *Journal of Retailing*, 69 (4), 429-452.
- Li, Zhan G. and Rajiv P. Dant (1997), "An Exploratory Study of Exclusive Dealing in Channel Relationships," *Journal of the Academy of Marketing Science*, 25 (3), 201-213.
- Macaulay, Stewart (1963), "Non-contractual Relations in Business: A Preliminary Study," *American Sociological Review*, 28 (1), 55-67.
- Macneil, Ian R. (1978), "Contracts: Adjustments of Long-term Economic Relations Under Classical, Neoclassical, and Relational Contract Law," *Northwestern University Law Review*, 72, 854-905.
- (1980). *The New Social Contract: An Inquiry into Modern Contractual Relations*. Yale University Press.

- Maxham III, James G. (2001), "Service Recovery's Influence on Consumer Satisfaction, Positive Word-of-mouth, and Purchase Intentions," *Journal of Business Research*, 54 (1), 11-24.
- and Richard G. Netemeyer (2003), "Firms Reap What They Sow: The Effects of Shared Values and Perceived Organizational Justice on Customers' Evaluations of Complaint Handling," *Journal of Marketing*, 67 (1), 46-62.
- McCollough, Michael A., Leonard L. Berry, and Manjit S. Yadav (2000), "An Empirical Investigation of Customer Satisfaction after Service Failure and Recovery," *Journal of Service Research*, 3 (2), 121-137.
- Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58 (3), 20-38.
- Nevin, John R. (1995), "Relationship Marketing and Distribution Channels: Exploring Fundamental Issues," *Journal of the Academy of Marketing Science*, 23 (4), 327-334.
- Palmatier, Robert W. *Relationship Marketing*. Cambridge, MA: Marketing Science Institute, 2008.
- , Rajiv P. Dant, and Dhruv Grewal (2007), "A Comparative Longitudinal Analysis of Theoretical Perspectives of Interorganizational Relationship Performance," *Journal of Marketing*, 71 (4), 172-194.
- , -----, -----, and Kenneth R. Evans (2006), "Factors Influencing the Effectiveness of Relationship Marketing: A Meta-analysis," *Journal of Marketing*, 70 (4), 136-153.
- Priluck, Randi (2003), "Relationship Marketing Can Mitigate Product and Service Failures," *Journal of Services Marketing*, 17 (1), 37-52.
- Poppo, Laura and Todd Zenger (2002), "Do Formal Contracts and Relational Governance Function as Substitutes or Complements?" *Strategic Management Journal*, 23 (8), 707-725.
- Rindfleisch, Aric and Jan B. Heide (1997), "Transaction Cost Analysis: Past, Present, and Future Applications," *Journal of Marketing*, 61 (4), 30-54.
- Roggeveen, Anne L., Michael Tsiros, and Dhruv Grewal (2012), "Understanding the Co-creation Effect: When Does Collaborating With Customers Provide a Lift to Service Recovery?" *Journal of the Academy of Marketing Science*, 40 (6), 771-790.
- Roschk, Holger and Katja Gelbrich (2014), "Identifying Appropriate Compensation Types for Service Failures A Meta-Analytic and Experimental Analysis," *Journal of Service Research*, 17 (2), 195-211.

- Samaha, Stephen A., Robert W. Palmatier, and Rajiv P. Dant (2011), "Poisoning Relationships: Perceived Unfairness in Channels of Distribution," *Journal of Marketing*, 75 (3), 99-117.
- Schurr, Paul H. (2007), "Buyer-Seller Relationship Development Episodes: Theories and Methods," *Journal of Business & Industrial Marketing*, 22 (3), 161-170.
- Sheth, Jagdish N. (1973), "A Model of Industrial Buyer Behavior," *The Journal of Marketing*, 37 (4), 50-56.
- Sivakumar, K., Mei Li, and Beibei Dong (2014), "Service Quality: The Impact of Frequency, Timing, Proximity, and Sequence of Failures and Delights," *Journal of Marketing*, 78 (1), 41-58.
- Smith, Amy K. and Ruth N. Bolton (2002), "The Effect of Customers' Emotional Responses to Service Failures on Their Recovery Effort Evaluations and Satisfaction Judgments," *Journal of the Academy of Marketing Science*, 30 (1), 5-23.
- , -----, and Janet Wagner (1999), "A Model of Customer Satisfaction With Service Encounters Involving Failure and Recovery," *Journal of Marketing Research*, 36 (3), 356-372.
- Tax, Stephen S., Stephen W. Brown, and Murali Chandrashekar (1998), "Customer Evaluations of Service Complaint Experiences: Implications for Relationship Marketing," *Journal of Marketing*, 62 (2), 60-76.
- Taylor, Shirley (1994), "Waiting for Service: The Relationship between Delays and Evaluations of Service," *Journal of Marketing*, 58 (2), 56-69.
- van Doorn, Jenny and Peter C. Verhoef (2008), "Critical Incidents and the Impact of Satisfaction on Customer Share," *Journal of Marketing*, 72 (4), 123-142.
- Wan, Lisa C., Michael K. Hui, and Robert S. Wyer Jr. (2011), "The Role of Relationship Norms in Responses to Service Failures," *Journal of Consumer Research*, 38 (2), 260-277.
- Weun, Seungoo, Sharon E. Beatty, and Michael A. Jones (2004), "The Impact of Service Failure Severity on Service Recovery Evaluations and Post-recovery Relationships," *Journal of Services Marketing*, 18 (2), 133-146.
- Williamson, Oliver E. (1975), *Markets and Hierarchies*. New York, 26-30.
- (1981), "The Economics of Organization: The Transaction Cost Approach," *American Journal of Sociology*, 87 (3), 548-577.
- (1985). *The Economic Institutions of Capitalism*. Simon and Schuster.

----- (1991), "Comparative Economic Organization: The Analysis of Discrete Structural Alternatives," *Administrative Science Quarterly*, 36 (2), 269-296.



## ESSAY TWO

### SMALL BUMPS, BIG CONSEQUENCES

#### INTRODUCTION

Developing and maintaining strong inter-firm relationships is a key factor for the long-term success of business-to-business (B2B) firms. Research has validated that the cultivation of healthy exchange relationships between firms can generate a number of desirable outcomes for both firms involved in inter-firm transaction(s), including increased sales growth, improved financial performance, and enhanced cooperation for both parties (Morgan and Hunt 1994; Palmatier, Dant, and Grewal 2007; Palmatier, Dant, Grewal, and Evans 2006). However, one persistent impediment to the successful cultivation of long-standing business relationships is the incidence of disruptive events – incidents or conduct occurring in the exchange relationship that weaken, undermine, or severely damage the relationship. Alternatively referred to as critical incidents or service failures in the literature, disruptive events can serve as a serious setback in exchange relationships, resulting in distrust, wavering loyalty, decreases in sales, and even the complete dissolution of the relationship (Bejou and Palmer 1998; Harmeling et al. 2015; Hibbard, Kumar, and Stern 2001; Keaveney 1995; van Doorn and Verhoef 2008).

Unfortunately, despite the best efforts of firms to prevent them from occurring, relationships inevitably experience bumps in the road and often fail, a sentiment offered both in practice and scholarship (Hart, Heskett, and Sasser 1990). For instance, referring to supply chain relationships, Hibbard et al. (2001) state “at one time or another in virtually every marketing channel, a channel member has engaged in actions that are viewed by other members as destructive...” Yet, while an abundance of research exists to support both the process and importance of *cultivating* strong inter-firm relationships, far less research has been advanced to explore how these same relationships fail and the role that disruptive events play in the downfall. Further, the scant research that exists to study how exchange relationships experience disruptive events has some notable shortcomings. One, the extant research focuses overwhelmingly on business-to-consumer (B2C) transactions, largely ignoring the B2B exchanges that are the most significant driver of economic output (Skousen 2015). Two, because less research has studied the impact of disruptions on B2B relationships, much of the existing work is conceptual in nature, with little empirical research to support the assertions made in this literature (Hollmann, Jarvis, and Bitner 2015). Finally, previous research in this area has been largely concerned with highly severe disruptions, focusing on issues such as the intentional deceit of exchange partners (see Brown, Dev, and Lee 2000; Seggie, Griffith, and Jap 2013; Wathne and Heide 2000) or significant disconfirmations of relational expectations (see Harmeling et al. 2015). The B2B literature has not yet advanced empirical research to explain the impact of lower-magnitude disruptions on exchange relationships.

The present research attempts to make four important contributions with these deficiencies in mind. First, this research explores the negative impact that disruptive events can have on inter-firm (B2B) exchange relationships. While a large volume of research on service failure and recovery in the B2C domain has yielded an advanced understanding of how individual consumers form and dissolve relationships with firms, research on how this same process unfolds between two firms is still forming. This is particularly true with respect to how inter-firm relationships experience disruptive events. Much of the extant research in the B2B domain has been dedicated to understanding how relationships form and thrive over time (see

Palmatier, Dant, and Grewal 2007 for a review of the Commitment-Trust, Dependence, Transaction-Cost Economics, and Relational Norms perspectives). Far less research has endeavored to understand why these relationships breakdown over time. The present research finds that supplier-caused disruptive events can lead to sharp changes in customer purchasing behavior and postulates that these disruptions can hasten the dissolution of the relationship.

Second, this research includes an empirical assessment of the effects of disruptive events on inter-firm exchange relationships using objective firm data. A significant shortcoming of the existing research on inter-firm exchange relationships is that much of the work conducted to this point is either conceptual in nature (see the relationship lifecycle models of Dwyer, Schurr, and Oh 1987; Halinen and Tahtinen 2002; and Ping and Dwyer 1992) or, when empirical assessments are performed, uses the critical incident technique and/or survey-based methodologies (see van Doorn and Verhoef 2008). Very few studies in the B2B domain have assessed the effects of disruptive events using objective firm data, and fewer still have tested those effects on objective measures of relationship performance (i.e. sales) (see Table 1 for a review of the relevant literature). The present research uses data from a large, multinational manufacturing firm to establish that supplier-caused disruptive events lead to significant decreases in post-disruption sales, making this research the first to empirically establish the negative effects of low-magnitude disruptive events on supplier sales performance using only objective firm data.

Third, the focus of the present research is on understanding the impact of lower-magnitude disruptions, often colloquially referred to as “bumps in the road.” Our investigation assesses the effects of both product-related and service-related disruptive events perpetrated by the manufacturer on its relationship with its customers.<sup>3</sup> According to a 2015 Gallup study, B2B companies have more service failures and recover from those failures less effectively compared to B2C companies, stressing the need for more research on these types of events in the B2B domain (Yu and Lamski 2015). However, previous research of disruptive events in inter-firm relationships has preferred to stress the impact of high magnitude disruptions that are likely to hasten the dissolution of the exchange relationship. Opportunism, in which exchange partners seek out their own interests often at the expense of the other (Williamson 1985), has been the most extensively studied form of disruption in the B2B literature. The use of “guile” to deceive exchange partners makes opportunistic behavior especially damaging to relationships. More recent literature has continued this theme of assessing the impact of highly severe forms of disruption, as evidenced by the names of the constructs investigated. Hibbard et al. (2001) looked at the effects of “destructive acts” on supply chain relationships; Samaha, Palmatier, and Dant (2011) assessed the impact of “relationship destroying factors” which include conflict, opportunism, and unfairness which acts as a “relationship poison” when it is perceived by a buyer; and most recently Harmeling et al. (2015) investigated “transformational relationship events” which represent disruptive events that can severely alter the nature of an exchange relationship. Unlike these previous works, our study attempts to understand the effects of lower

---

<sup>3</sup> Importantly, in this dissertation, we refer to disruptive events as “low-magnitude” disruptions to differentiate them from other forms of disruption previously assessed in the small stream of B2B literature, such as opportunistic acts and explicit norm violations which are indicated to be more transformational in nature. However, while perhaps less blatant, these product and service disruptions of interest in this dissertation can be perceived as medium-to-high magnitude disruptions to the customers experiencing them.

magnitude disruptions that occur with higher frequencies within inter-firm exchange relationships, akin to the more mundane, yet highly prevalent issue of service failure that has received extensive attention in the study of B2C relationships. Our findings indicate that seemingly innocuous “bumps in the road” can be just as harmful for suppliers as the higher-magnitude disruptions typically assessed. Additionally, we find evidence that longer-standing relationships are able to withstand these bumps better than those formed more recently.

Finally, because this study uses observed firm data, we employ an advanced matching procedure (Coarsened Exact Matching or CEM) to condition the data and enhance the ability to draw causal inferences from our findings. Matching procedures help to control for the selection bias inherent in observational data, producing a more accurate estimate of the treatment effect (Austin and Stuart 2015). Though matching procedures like CEM have been regarded as important, if not necessary, methodological tools for analyzing observational data for many years in the social and natural sciences, these methods have been slow to gain traction in Marketing. In fact, we are aware of only one other paper that has utilized matching to test the effects of disruptive events on firm relationships, and that study was conducted in a B2C setting (see Harmeling et al. 2015). To demonstrate the importance of utilizing matching procedures when analyzing observational datasets, we report our results both with and without the use of matching and highlight where important differences exist.

The remainder of this paper is organized as follows: First, we review expectancy theory and introduce the relevant literature explaining the effects of disruptive events on key outcomes for exchange partners. Next, we make several theoretically supported predictions about the effects of supplier-caused disruptions on customer purchasing behavior and empirically test those predictions in a series of weighted regressions. Finally, we review the contributions of this research, discuss the theoretical and managerial implications of our findings, and summarize future research directions.

## **CONCEPTUAL BACKGROUND**

Several theoretical lenses have been applied to study the impact of disruptive events on exchange relationships. Most prominent in the literature is the expectancy-disconfirmation paradigm which postulates that customers compare the performance delivered by a firm against the expectations they had for the performance prior to the exchange (Boulding, Kalra, Staelin, and Zeithaml 1993; McCollough, Berry, and Yadav 2000). Customer’s pre-trial expectations are typically formed over time, either through direct experience or knowledge accumulated about the product, service, or provider (Boulding et al. 1993; Zeithaml, Berry, and Parasuraman 1993). In the case of exchange relationships, expectations are largely informed by the direct interactions and experiences that customers have had with suppliers in the past. As relationships progress through time and expectations begin to form, customers also develop “zones of tolerance” around their expectations that constitute the range of acceptability with respect to the supplier’s performance (Parasuraman, Zeithaml, and Berry 1994). Research on disruptive events focuses on instances in which firm performance falls below this range of acceptability for customer expectations, also referred to as negative disconfirmation of expectations (McCollough et al. 2000). Negatively disconfirmed expectations can seriously affect customer satisfaction and present long-term challenges for exchange relationships (Bolton and Drew 1991).

## **Effects of a Single Disruption**

Related to the expectations-disconfirmation paradigm are critical incidents and turning points, both of which are emblematic of times when customers experience negatively disconfirmed expectations. Critical incidents can be both positive and negative, though the emphasis here is on negative events as they relate to triggering disruptions between exchange partners. In the context of exchange relationships, negative critical incidents can be defined as “out-of-the ordinary events” that occur during the course of a buyer-seller relationship that customers perceive or recall as unusually negative (van Doorn and Verhoef 2008). Understanding the scope and impact of these incidents and the range of acceptability surrounding them is fundamental to understanding how relationships progress through time (Roos 2002). Turning points represent a similar construct and have been defined in the literature as “specific events within a relationship that disrupt incremental development” (Harmeling et al. 2015, p. 40) and generate “positive or negative explosions of relational commitment” (Baxter and Bullis 1986, p. 486). Like critical incidents, turning points can be either positive or negative, but we focus on the turning points that are marked by negative developments for the relationship. Both negative critical incidents and negative turning points can result in detrimental outcomes for exchange relationships (Harmeling et al. 2015; McLean and Pratt 2006), yet very little research has endeavored to demonstrate the effects of disruptive events on objective sales performance, and fewer still have stressed the impact of low-magnitude disruptions (see Table 1). Recently, Harmeling et al. (2015) found a significant negative effect of negative “transformational relationship events” (relationship turning points) on firm sales performance. In accordance with this finding, we expect that disruptive events will lead to a significant reduction in consumer spending and lost sales dollars for the manufacturer. Formally stated:

H1: Customers experiencing a single disruption will reduce the amount that they purchase following the disruption, compared to expenditures over the same period of time prior to the disruption.

## **Effects of Multiple Disruptions**

It is an accepted premise in the services literature that failures are inevitable (Hart et al. 1990). This premise holds for any area of an organization that involves frequent interactions with customers. Logically, the inevitability of a single failure on the part of the supplier also means that repeated failures for customers are possible, if not likely, given enough time. The continual nature of product and service delivery creates many opportunities for disruptions to occur (Sivakumar, Li, and Dong 2014). Previous research in the area of B2C service failures suggests that the frequency of disruptive events serves to strengthen the negative effects on the exchange relationship. In the expectancy-disconfirmation framework, customers are generally able to understand when a single disruptive event occurs, though they still may respond unfavorably to it. However, the incidence of multiple disruptive events over a period of time is difficult to ignore and represents a more severe disconfirmation of the customer’s expectations. Research on multiple failures has found that customers experiencing two or more consecutive failures have strong negative emotional reactions (Wu and Lo 2012), including feelings of powerlessness and helplessness (Bunker and Bradley 2007). Additionally, multiple disruptive events are likely to generate less favorable evaluations of the exchange relationship and alter customer purchasing

**Table 1 – Select Empirical Research on Disruptive Events in B2B Exchange**

<u>Authors</u>	<u>Approach</u>	<u>Disruption Type</u>	<u>IV(s) Source</u>	<u>DV(s) Source</u>	<u>Results</u>
Kauffman and Stern (1998)	Quant.	Unfairness	Observed Lawsuits	Self-report	Norm violations and perceived unfairness increase hostility
Skinner et al. (1992)	Quant.	Conflict	Self-report	Self-report	Conflict has a negative effect on cooperation and satisfaction
Gundlach et al. (1995)	Quant.	Opportunism	Simulation	Key informant self-report	Opportunism weakens relational norms
Lee (1998)	Quant.	Opportunism	Key informant self-report	Key informant self-report	Opportunism negatively impacts relational exchange behavior
Hibbard et al. (2001)	Quant.	Assorted	Self-report	Self-report, Firm Data	Pre-disruption relationship quality and interdependence attenuates the effects of the disruption
Lee (2001)	Quant.	Conflict	Key informant self-report	Key informant self-report	Increasing levels of perceived conflict lead to decreased satisfaction
Brown et al. (2006)	Quant.	Unfairness	Key informant self-report	Key informant self-report	Unfairness negatively affects satisfaction and manifest conflict
van Doorn & Verhoef (2008)	Quant.	Assorted	Self-report	Self-report	Negative critical incidents trigger re-evaluation of the relationship

(Table 1 continued)

<u>Authors</u>	<u>Approach</u>	<u>Disruption Type</u>	<u>IV(s) Source</u>	<u>DV(s) Source</u>	<u>Results</u>
van Doorn & Verhoef (2008)	Quant.	Assorted	Self-report	Self-report	Negative critical incidents trigger a re-evaluation of the exchange relationship
Samaha et al. (2011)	Quant.	Conflict, Unfairness, Opportunism	Self-report	Self-report	Conflict, Unfairness, and Opportunism have negative effects on cooperation and flexibility, and indirect negative effects on performance
Harmeling et al. (2015)	Quant.	Assorted	Manipulation, Self-report	Self-report, Firm Data	Negative TRE's have a negative indirect impact on sales performance through betrayal
Zhu and Zolkiewski (2015)	Case Study	Service Failure	N/A	N/A	B2B service failures are more complex and can have a more profound relational impact relative to B2C failures
Hollmann et al. (2015)	Qual.	Assorted	N/A	N/A	Decisions for customers to defect build over time and are influenced by a number of factors outside of just a product or service failure

behavior (Maxham III and Netemeyer 2002; van Doorn and Verhoef 2008). Thus, we predict the following:

H2a: Relative to customers experiencing a single disruption, customers experiencing multiple disruptions in a prior time period will demonstrate a greater reduction in the amount that they purchase following the disruptions, compared to expenditures over the same period of time prior to the disruption.

H2b: As the total number of disruptions experienced by customers in previous time periods increases, the greater the change in expenditures will be between the amount spent before the disruptions and the amount spent after the disruptions.

### **Proximity and Duration of Disruptive Effects**

Working under the assumption that customers will curtail purchasing behavior in response to disruptive events, a critical question for suppliers is how quickly customers will begin scaling back purchases and for how long the scale-back will last. Most of the extant research, in both the B2B and B2C domains, has characterized disruptions as discrete events. Very few studies have assessed the impact of disruptive events over time, but it is important that firms understand the long-term ramifications of these events. When attempting to address the key questions of how immediately customers form a response to a disruption and how long that response will last, it is useful to consider the proximity of the disruption(s) to the present time period. With respect to assessing multiple disruptions, proximity has been used to represent the time interval between the disruptions (Sivakumar et al. 2014). An important finding in the literature demonstrates a “recency effect” whereby customers tend to weigh recent experiences more heavily than experiences that occurred in the more distant past (Bolton, Lemon, and Bramlett 2006; Sivakumar et al. 2014). This suggests that a more recent disruption (i.e. within the past three months) should exert greater influence on a customer’s subsequent purchasing behavior relative to a more distant disruption (i.e. within the past 12 months). Applying expectancy theory, we postulate that customers make ongoing evaluations of the exchange relationship over time, reflecting on whether expectations have been met, exceeded, or disconfirmed by suppliers, and adjust behaviors accordingly (Boulding et al. 1993). Following Bolton, Lemon, and Bramlett (2006), disruptions occurring in the recent past will loom larger and are more likely to lead to decreased purchases in the short term. However, over time, and in the absence of any subsequent disruptions, customers will adjust purchasing habits to reflect the more recent period of met or exceeded expectations, and purchasing will approach pre-disruption levels. Stated formally:

H3: The decreased customer purchasing observed as the result of a disruption will be greatest in the short-term following the disruption and will dissipate over time.

### **Buffering Effect of Longer-Tenure Relationships**

Of concern for suppliers is whether disruptions would be expected to impact all customers uniformly, or if customers of longer-standing might be willing to look past the occasional disruption because the relationship with the supplier has been cemented over time.

The literature frames this question as a “buffering” versus a “magnifying” effect of strong relationships in the presence of a disruption. These are in fact competing hypotheses. The first proposes that strong relationships serve as a buffer against negative repercussions following a disruption. The reasoning here is that customers who have had generally good experiences over a long period of time with a supplier are willing to look at a single disruptive event as an aberration and it does not represent a marked disconfirmation of their expectations (Sajtos, Brodie, and Whittome 2010). Support for this prediction hinges on the comfort and familiarity generated in the exchange relationship over time. Hess, Ganesan, and Klein (2003) found that as the number of interactions between firms and customers increased, customer expectations of relationship continuity also increased, suggesting customers are more willing to look past a disruption the longer they have worked with a supplier. Conversely, the competing hypothesis predicts that customers having a long-standing relationship will feel more affronted that the supplier would allow a disruption to occur given the loyalty demonstrated by the customer over time (Sajtos et al. 2010). In this case, the presence of a disruption would be magnified for customers with strong relationships and the response to the disruption would be expected to be more severe. Harmeling et al. (2015) find that the *type* of failure is largely responsible for determining if a buffering or magnifying effect is observed. When the failure represents a disconfirmation of expectations related to the product or service, then the effects of the disruption are attenuated by a strong relationship. However, when the failure is indicative of a strong violation of relational norms, this is found to represent a sharp disconfirmation of expectations and triggers a magnifying effect of the disruption. In our dataset, the disruption data provided by the manufacturer represents a straightforward, binary accounting of the presence or absence of a product or service related disruption.<sup>4</sup> Thus, in accordance with the findings of Harmeling et al. (2015), we predict:

H4: Relationship tenure attenuates the negative effect of disruptions on customer purchasing behavior.

## METHODOLOGY

### **Data and Sample**

Data for the study was obtained from a large, multinational consumer goods manufacturer. The manufacturer produces over 240,000 products and serves over 140,000 consumer goods suppliers worldwide, with a large majority of those customers located in the United States. The complete dataset used for the analysis combined data from two separate data sources within the manufacturing company. The first source included the monthly sales data for every active customer over a seven-year span of time (2009-2016), including gross sales, gross order counts, and gross invoice counts. The second source included a complete accounting of all customer service and product related disruptions over a 21-month time period (June 2014 – February 2016) that were regarded as serious enough to be entered into the manufacturer’s “case management” system. The manufacturer considers disruptive events to be “cases” when the events are of pressing concern to the customer, cannot be resolved immediately, require further

---

<sup>4</sup> Though relational norms may have also been violated in tandem with these disruptions, we do not have detailed records of these violations and thus do not attempt to analyze them.



investigation, or require additional recovery actions for the customer. Customer issues that do not fit these criteria are tracked in a separate log, but are not entered into the case management system. For the purposes of this study, the “case management” dataset and the sales data were merged together and matched by each customer’s unique ID numbers to generate a single, comprehensive dataset that included all recorded sales and customer service data for every active customer.

Key to the analysis, the complete dataset was organized by monthly time period, with a total of 21 time periods designated, each corresponding to one month of data from June 2014 – February 2016 (the total time frame for which customer service “disruption” data was available). Each time period included a complete sales and customer service history for every customer that was marked as an active customer during that time period (the manufacturer considered customers as active if they had recorded a purchase within the previous 18 months). Within each time period, customers who experienced a disruptive event (meaning they were listed in the manufacturer’s case management system as having experienced an issue during that time period) were coded as a “1”, designating these customers as “treatment cases” for the time period. All remaining customers who did not experience a disruptive event were coded as a “0”, denoting that these customers were “control cases” for the time period. Importantly, by analyzing the data with respect to time period, it is possible for a customer that was a “treatment” case in one time period to be a “control” case in a separate time period. The data were organized in this manner so that we could match treatment customers with control customers within each time period, and then calculate changes in purchase behavior over time for both relative to the time period in which they were matched (i.e. the “present time period”). As such, we also created variables to track previous disruptions for all customers to account for the possibility of customers being both a control and treatment case in the data. In total, 3,125 disruptions were recorded over the 21 time periods. On average, each monthly time period included 148 treatment cases and 142,030 control cases. The matching procedure employed for this study (described below) conditions the data to allow meaningful insights to be gleaned despite the large disparity between the number of treatment and control cases in the unmatched dataset.

## **Measures**

The central outcome of interest in the study is the change in customer purchasing behavior that occurs following a disruptive event, relative to customer purchasing behavior prior to the disruption. To assess this change, four new variables were created for this study, one each to determine the change in manufacturer sales (to each customer) over a 1-3 month, 4-6 month, 7-9 month, and 10-12 month time period (see Appendix D for a list of all variables and their operational definitions). To calculate the change in sales, we subtracted the sum of the gross sales (to each customer) for the time period of interest *prior* to a disruptive event occurring from the sum of the gross sales (to each customer) for the same length of time *post*-disruption. For example, if a customer experienced a disruption in the month of April, the variable `change_sales_3mo` was calculated by subtracting the total gross sales in the three months preceding the disruption (January, February, and March) from the total gross sales in the three months following the disruption (May, June, and July). These same procedures were followed to compute the variables `change_sales_6mo`, `change_sales_9mo`, and `change_sales_12mo`. Importantly, because a significant number of customers did not experience a disruption (control cases), it was useful to break the dataset up by monthly time periods so that the dependent

variables calculating a change in sales could be generated for *every* case (including controls) in the dataset by using the monthly time period as the referent in lieu of a disruption.

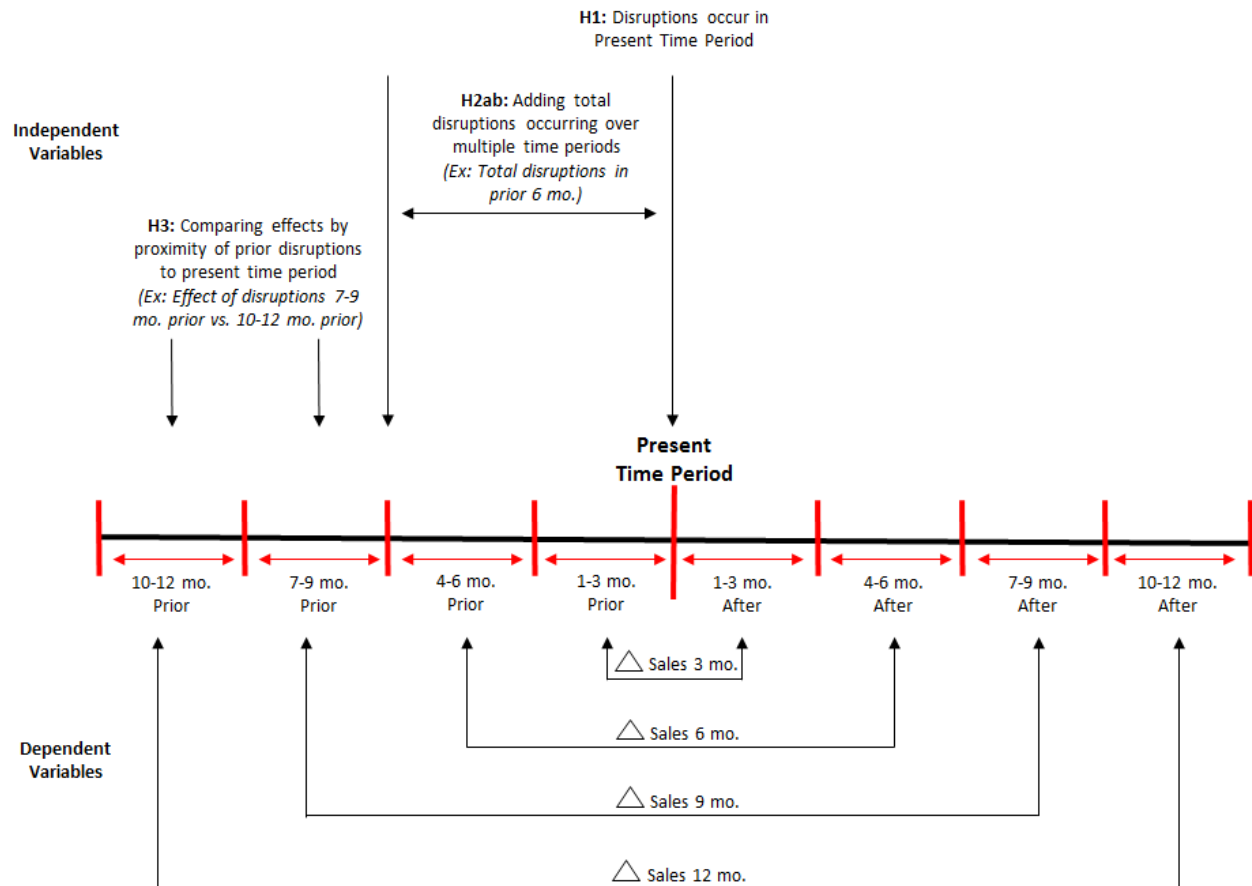
The independent variables in the analysis were created using the customer service data records provided by the manufacturer. First, a variable (*disruption\_binary*) was created to indicate the presence or absence of a disruptive event in each time period. Customers that were listed in the manufacturer's case management system in a given time period were coded as a "1" for having experienced a disruptive event, and all other customers were coded as a "0" for the absence of a disruptive event in that time period. Next, four variables were created to identify the time period in which disruptive events had occurred in the months leading up to the current time period. These four variables assessed the number of disruptions that occurred 1-3 months prior to the current time period, 4-6 months prior, 7-9 months prior, and 10-12 months prior (named *prior\_disruptions\_3mo*, *prior\_disruptions\_6mo*, *prior\_disruptions\_9mo*, and *prior\_disruptions\_12mo*, respectively) and allow us to assess how disruptions impact current sales trends based on the proximity of disruption(s) to the present time period. Additionally, two variables were created to calculate the total number of disruptions that occurred in the 6 months (*total\_disruptions\_prior\_6mo*) and 12 months (*total\_disruptions\_prior\_12mo*) preceding the current time period. These variables help to evaluate a cumulative toll of subsequent disruptions on customer purchasing behavior (see Figure 1 for a graphical illustration of how each of the variables testing H1-H3 was developed). For the purposes of testing the effects of customer tenure on the impact of disruptive events (H4), we generated a variable to measure the number of months that a customer has been actively purchasing from the manufacturer (*customer\_tenure*). In this dataset, we use the tenure of the customer as a proxy variable for relationship quality. Lastly, control variables were created to partial out the potential impact of seasonality in the data by creating 11 dummy variables for each month February through December, with January serving as the referent.

## **Procedure**

### **Why Matching?**

Randomized controlled trials (i.e. experimental research designs) have long been regarded as the "gold-standard" in scientific research owing to the ability to remove systematic bias, thus allowing researchers to directly compare the differences on outcome variables of interest between treatment and control groups (Austin and Stuart 2015). However, researchers are often confronted with situations in which randomized controlled trials are not possible, or in which observational research methodologies are more practical, more cost effective, or better suited for addressing the research questions at hand. In such cases, researchers are typically resigned to accept that the findings are purely correlational and cannot be regarded as causal due to the lack of control in the research design. Matching procedures can be employed as a method to overcome this limitation with observational research.

Matching procedures have been employed for decades in the natural sciences as a way of conditioning observational (non-randomized) data to control for selection bias. Recently, these methods have gained increasing traction in the social sciences, particularly in the areas of psychology and education, but also in small doses in business disciplines such as economics, accounting, and marketing, as well. Matching procedures, such as propensity score methods and coarsened exact matching, work by attempting to mimic randomized experiments to create



**Figure 1 – Development of Independent and Dependent Variables**

equivalence between treatment and control groups in a study. This equivalence is achieved by matching together treatment and control respondents who are similar in terms of their observable characteristics (Dehejia and Wahba 2002), specifically attempting to identify characteristics that may be confounding. The objective is to attain balance between conditions on a theoretically selected group of covariates, thus reducing the threat of confounding variables and creating a situation that would be expected in a randomized experiment (King, Blackwell, Iacus, and Porro 2010; Thoemmes and Kim 2011). Ultimately, matching procedures allow researchers to more confidently assess that an unbiased estimate of the treatment effect has been generated, even allowing researchers to infer causal relationships under the assumption that all relevant covariates have been accounted for (Thoemmes and Kim 2011).

### **What is Coarsened Exact Matching?**

Coarsened Exact Matching (CEM) is a bias-reducing matching method that is used to improve the estimation of causal treatment effects by reducing the imbalance in covariates between treated and control groups (King et al. 2010; Sidney, Coberley, Pope, and Wells 2015). Relative to other commonly used matching methods, such as matching by propensity score, CEM has been found to do a superior job of yielding estimates with lower variance and bias regardless of sample size (Sidney et al. 2015). As described by Iacus, King, and Porro (2016),

CEM works by first temporarily coarsening the data to simplify the matching process. Next, all units are organized into strata based on their values for each of the selected covariates, with all units sorted into the strata representing the same values (i.e. an exact match within each of the strata). Finally, the procedure is designed to remove from the dataset the units in any stratum that does not include at least one unit from each the treatment and the control. Ultimately, as with other matching procedures, the effect of CEM is that the matched data allows for a non-biased comparison of the causal effects between treatment and control conditions on the outcomes of interest. After generating the matched strata, CEM generates weights for each stratum that represent the relative proportion of units in each stratum. These weights compensate for the fact that CEM will generate strata with different numbers of treated and control units. The weights can be applied in a weighted multivariate regression to produce an unbiased estimate of the causal treatment effect for each unit (Iacus et al. 2016; Sidney et al. 2015).

### **Selecting the Covariates to be Matched**

An important first step, prior to actually initializing the matching procedure, is to establish which covariates will be used to match control and treatment cases. Though a lack of consensus exists among researchers as to which variables should be used for matching, evidence supports the use of all covariates that impact the outcome variable(s) of interest (i.e. potential confounders) and all covariates that impact both the treatment assignment and the outcome (i.e. true confounders) (Austin 2011). Matching on potential confounding variables is a critical step to alleviate concerns related to endogeneity in the model so that the effect of independent variables on the outcome variables of interest can be attributed solely to the predicted relationship. Below, we list the 12 covariates (8 categorical and 4 metric) used for matching in this study and briefly explain the reasoning behind their inclusion:

#### Account Type

The Account Type variable was created by the manufacturer to explain the customer's buying ability and the types of products the customer would be likely to purchase. This was a categorical variable with seven categories created to classify customers. The two predominant categories were "full-access resale" and "tools and supplies only." This variable was included in the matching algorithm as a true confounder because it influences the likelihood of experiencing a disruptive event (the more product lines purchased, the higher the likelihood of a disruption) and it also influences the dependent variable of sales (the more product lines purchased, the more sales would be expected).

#### Business Access

The Business Access variable was created by the manufacturer to identify whether customer's fell into one of two categories – those "open to the public" and those "not open to the public." This variable was included in the matching algorithm as a potential confounder because it influences the sales volume the manufacturer would expect depending on whether the customer was a B2B or B2C entity.

### Business Location

The Business Location variable identifies the physical retail location where customers have their stores. Overall, seven different categories were created, with prevalent categories including “traditional mall stores” and “free standing buildings”. This variable was included in the matching algorithm as a potential confounder because different business locations influence how much a customer is expected to purchase from the manufacturer.

### Business Community

The Business Community variable identified whether customer’s retail locations were set in a rural, suburban, or urban setting. This variable was included as a potential confounder because the setting where the customer is located influences purchasing behavior to meet customer demand, with higher demand expected in suburban and urban setting relative to rural settings.

### Customer Category

The Customer Category variable identified what type of retail operation the customer owned and how large the scale of the operation was. Overall, the manufacturer designated customers into 12 potential categories, including “Single Store: 1 Door”, “Small Chain: 2-9 Doors”, “Medium Chain: 10-49 Doors”, and “Pawn Shop”. This variable was included as a true confounder because the type and scope of the retail operation influences how likely a disruptive event is to occur (larger facilities purchase more product, creating more opportunities for mistakes to occur) and the total volume purchased by customers.

### Sales Channel

The Sales Channel variable was created by the manufacturer to track whether customers were generated from traditional sales channels within the firm (“standard”) or if they originated with sales efforts of contracted sales directors (“program sales”). This variable was included in the matching algorithm as a true confounder under the assumption that outside sales consultants are less attentive to customer relationships, creating the possibility of more disruptive events and fewer sales relative to accounts generated by salespeople inside the firm.

### Business Line

The Business Line variable categorizes the predominant business function of the customer into one of 11 different categories, with “Jewelry”, “Pawn”, and “Manufacturing/Distribution” being three of the predominant categories. This variable was included as a true confounder given that the business function would influence both the type and breadth of products purchased by customers (with certain types of products having a higher penchant for causing disruptions based on size, expense, and complexity), as well as the potential purchase volume of the customer.

### Dominant Channel

The Dominant Channel specifies which outlet the customer predominantly uses to place orders with the manufacturer, with options including “Telephone”, “Website”, and “Face-to-Face”. This variable was included in the matching algorithm as a true confounder as channels that limit direct interaction with a manufacturer representative are more likely to experience a mistake with the order and would also be expected to result in lower purchase volume by the customer.

### Average Monthly Sales (dollars), Quantity, Invoice Count, and Order Count

The four metric covariates of Average Monthly Sales, Average Monthly Quantity, Average Monthly Invoice Count, and Average Monthly Order Count were all included in the matching algorithm as true confounders. Each of these variables is expected to be related to the likelihood of a customer experiencing a disruptive event (with increased purchases resulting in the greater likelihood of experiencing at least one disruptive event) and to the purchase volume observed by customers.

### **Matching Results**

To continue the process of evaluating the dataset with respect to each given time period, we began by first performing an exact match of the treatment and control cases by time period. This entailed organizing all of the treatment cases in the dataset by the month in which the disruption occurred and then matching those cases up with a control case from the same month (i.e. any other active customer that did not experience a disruption during that month). Next, we conducted the CEM procedure according to the steps described by Iacus et al. (2016) and described above in the “What is Coarsened Exact Matching” section. Thus, the strata and weights generated for each case reflected only those treatment and control cases that occurred within a specified time period that matched according to the covariates entered into the CEM algorithm. The success of the matching process can be evaluated with respect to the number of treatment cases that were able to be successfully matched to a similar control case, with a higher percentage of matches indicating better success. In this study, the average percentage of treatment cases matched across all time periods was 91.6%, with an average of 77 matched strata generated.

### **Results**

To test H1-H4, weighted least squares regressions were performed using the weights generated from the CEM procedure (following Iacus et al. 2016; Sidney et al. 2015). Importantly, all hypotheses were also tested without the inclusion of the CEM weights to provide a point of comparison to elucidate the importance of employing matching when attempting to draw causal conclusions from observational data. However, we strictly focus on summarizing the effects of the weighted regressions in the summary section following each hypothesis test.

The analysis also included additional tests to rule out potential confounding elements inherent to the data. First, given the seasonal nature of the industry in which the manufacturer operates, we also performed the hypothesis tests with dummy variables included for each month

to control for seasonal effects. We did not find any significant differences between the results with and without controlling for seasonality. Second, we had concerns with heteroskedasticity with respect to the sometimes large differences in size and scope of the customers in the dataset. The customers range from small “mom-and-pop” stores to large retail chains with hundreds of domestic locations. To control for this concern, we ran separate regressions using Hayes and Cai’s (2007) Heteroskedasticity-Consistent Standard Error (HCSE) estimator. Again, we did not find significant differences from our original results. It is likely that significant differences were not found due to the use of matching to condition the data. The CEM algorithm employed included metrics that would account for the size differences between customers (i.e. gross sales, gross order counts, and gross invoice counts). Using the CEM weights in the analysis already serves to reduce the size of the standard errors in the estimates. In light of this, we have chosen to report the original results below.

## **Main Effect of Discrete Disruptions**

### Including CEM weights in Analysis

H1 predicted that the incidence of a single disruptive event in a given time period would result in a decrease in subsequent customer purchasing behavior, relative to purchasing behavior in prior periods. The findings offer partial support for H1 (see Table 2). Using weighted regression, we found that a single disruptive event results in a change in consumer purchasing in two of the four assessed time periods following the disruption, relative to purchasing behavior over the same number of months prior to the disruption. The results indicate that a single event does not cause a change in customer purchasing behavior in the 1-3 month time period immediately following the disruption ( $B = 11, p = .95$ ), but the negative effects of the disruption are reflected more greatly in the time periods 4-6 months ( $B = -907, p < .05$ ) and 7-9 months ( $B = -1,279, p < .05$ ) after the disruption. The results indicate that the effect of the disruption on purchasing behavior wears off by the time period 10-12 months after the disruption ( $B = -1,001, p = .11$ ).

### Not Including CEM weights in Analysis

While similar evidence of a single disruption resulting in decreased customer spending is found when the matching weights are removed from the regression analysis, the results do, in fact, differ from the findings with the weights included in a couple of important ways (see Table 2). First, we find that there is a significant effect of a single event resulting in decreased customer spending in the 10-12 month time period post-disruption ( $B = -3,105, p < .01$ ), which was a non-significant finding with the matching weights included in the analysis. Second, we observe that the effect sizes are substantially larger when the matching weights are turned off in the analysis across all four time periods for the change in customer purchase behavior. Notably, the effect sizes range from approximately one to three times as large without the matching weights included in the analysis compared to when the weights are included, further validating the use of matching procedures with observed data.

**Table 2 – Effects of Discrete Disruptions (H1) and Multiple Disruptions (H2ab)**

		Model 1: CEM Weights Included		Model 2: CEM Weights Not Included	
<u>Predicted Relationship</u>	<u>Hyp.</u>	<u>B</u>	<u>SE</u>	<u>B</u>	<u>SE</u>
Effects of Discrete Disruptions (Bivariate Regression)					
Disruption_Binary → Change_Sales_3mo	H1a	11	176	249	237
Disruption_Binary → Change_Sales_6mo	H1b	-907*	357	-1,735**	429
Disruption_Binary → Change_Sales_9mo	H1c	-1,279*	534	-3,129**	621
Disruption_Binary → Change_Sales_12mo	H1d	-1,001	633	-3,105**	982
Effects of Multiple Disruptions (Multiple Regression)					
Disruption_Binary → Change_Sales_3mo	H2ab	411	183	739**	247
Total_Disruptions_6mo → Change_Sales_3mo	H2ab	3,102**	886	4,196**	1,095
Total_Disruptions_12mo → Change_Sales_3mo	H2ab	-5,003**	651	-5,701**	774
Disruption_Binary → Change_Sales_6mo	H2ab	398	370	178	445
Total_Disruptions_6mo → Change_Sales_6mo	H2ab	8,492**	1,981	6,530**	2,194
Total_Disruptions_12mo → Change_Sales_6mo	H2ab	-16,334**	1,513	-17,134**	1,638
Disruption_Binary → Change_Sales_9mo	H2ab	-736	554	-1,567*	644
Total_Disruptions_6mo → Change_Sales_9mo	H2ab	-3,990	4434	-3,791	4,906
Total_Disruptions_12mo → Change_Sales_9mo	H2ab	-2,040	4159	-9,441*	4490
Disruption_Binary → Change_Sales_12mo	H2ab	-465	655	-1,689	1,017
Total_Disruptions_6mo → Change_Sales_12mo	H2ab	-3,156	11,015	102	16,655
Total_Disruptions_12mo → Change_Sales_12mo	H2ab	-3,148	10,777	-13,682	15,959

\*  $p < .05$ , \*\*  $p < .01$



## Summary of Findings

The weighted regression findings indicate an interesting pattern of effects that was not anticipated. In accordance with previous research, we expected that there would be a recency effect whereby the time period immediately following a disruption would experience the strongest negative effects on supplier sales. However, the results suggest that there is actually a lagged effect that occurs following the disruption where there is no observable effect on sales in the 1-3 months following a disruption, but then the negative effect on sales is felt in the time periods ranging from 4-9 months after the disruption. The effect of the disruption then dissipates in the period 10-12 months after the disruption.

The reason for the observed lagged effect can likely be attributed to a couple of factors. One, for a disruption occurring today, it may take several weeks before a resolution is reached over how the disruption will be addressed by the seller. This delay in responding to a disruptive event might serve to push back the length of time before the customer response to the event is felt. Two, it takes time for customers to perform the necessary actions to change suppliers. Purchases may be planned for several weeks, or even months, in advance with the present supplier. Additionally, it requires time to search for and begin the process of purchasing from a different supplier. Regardless of the reason for the lag, this unexpected effect is a great example of why more research is needed to understand the differences in how B2B and B2C exchange relationships are affected by disruptive events.

## **Main Effect of Multiple Disruptions**

### Including CEM weights in Analysis

H2a predicted that the incidence of multiple disruptive events would result in sharper decreases in customer purchasing behavior, relative to discrete events. H2b predicted that sharper decreases in customer purchasing would be observed as the number of disruptions occurring in previous time periods increased. To test these predictions, we included three independent variables (*disruption\_binary* assessing the presence (1) or absence (0) of a disruption in the present time period; *prior\_disruptions\_6mo* measuring the total number of disruptions in the six months prior to the present time period; and *prior\_disruptions\_12mo* measuring the total number of disruptions in the 12 months prior to the present time period) in a weighted regression to observe their relative effects on the change in customer spending over multiple time periods. The results demonstrate support for both predictions, but only over the short-term (see Table 2). We find that the greatest effects on customer spending are found when the total number of disruptions is aggregated over the previous 12-month time period. However, these effects were only found to be significant in the 1-3 months ( $B = -5.003, p < .001$ ) and 4-6 months ( $B = -16,334, p < .001$ ) following the present time period. The effects become non-significant more than six months past the present time period.

### Not Including CEM weights in Analysis

We again discovered differences between the findings observed with the matching weights included in the regression analysis and those observed with the weights turned off. Though the findings with the weights turned off did replicate the finding that more significant

decreases occur in customer spending when disruptions are totaled over a 12-month time period relative to shorter time periods, this effect was found to last longer compared to the findings when the matching weights were included. The effect of disruptions totaled over a 12-month time period on sales was significant in the time periods 1-3, 4-6, and 7-9 months after the present time period, suggesting a longer-lasting effect compared with the findings with the matching weights turned on (see Table 2). Additionally, as with the tests of H1 reported above, the effect sizes were found to be larger when the matching weights were turned off, though only slightly in this case.

### Summary of Findings

The results of the weighted multiple regression indicate support for our hypothesis that multiple disruptive events generate a stronger, negative consumer response relative to discrete events. In this case, we found that sales decreased at a sharper rate when we observed the effect of disruptions totaled over a 12-month time period, compared with the effects observed when disruptions were only totaled over the prior 6 months or just in the present time period. The findings suggest that a single disruptive event, though potentially detrimental, can be more easily overcome with appropriate recovery actions than successive disruptive events occurring in the same calendar year. This finding supports previous findings in the services literature that demonstrated significant decreases in customer satisfaction and repurchase intentions following two successive service failures coupled with insufficient recovery efforts (Maxham and Netemeyer 2003).

### **Main Effect of Disruptions in Prior Time Periods**

#### Including CEM weights in Analysis

H3 predicted that disruptive events occurring in prior time periods would result in a decrease in customer spending, with disruptions occurring closest to the current time period exerting the most influence. The findings offer partial support for H3 (see Table 3). Disruptions occurring within the time period 1-3 months prior to the current time period resulted in a significant decrease in customer purchasing in the time periods 4-6 months ( $B = -4,203, p < .01$ ), 7-9 months ( $B = -3,999, p = .05$ ), and 10-12 months ( $B = -9,357, p < .01$ ) out from the current time period. Surprisingly, however, the effects of disruptions within the most recent 1-3 months did not result in a decrease in sales in the 3 months following the current time period ( $B = -561, p = .41$ ). These results, combined with the findings reported above examining the impact of discrete disruptions in the immediate time period, indicate a pattern in the data whereby the effects of disruptive events on sales are not observed in the months immediately following the current time period. Rather, the strongest effects of disruptions are observed somewhere between 6 and 12 months after the time of the disruption(s) (see Figure 2 for a graphical illustration of this effect).

This pattern is further supported when examining the results of disruptions occurring in time periods 4-6 months, 7-9 months, and 10-12 months prior to the current time period. First, examining the impact of disruptions occurring in the time period 4-6 months prior, the findings demonstrate a significant decrease in customer purchasing in the 1-3 months ( $B = -5,423, p < .01$ ), 4-6 months ( $B = -20,474, p < .01$ ), and 7-9 months ( $B = -12,908, p < .01$ ) after the current

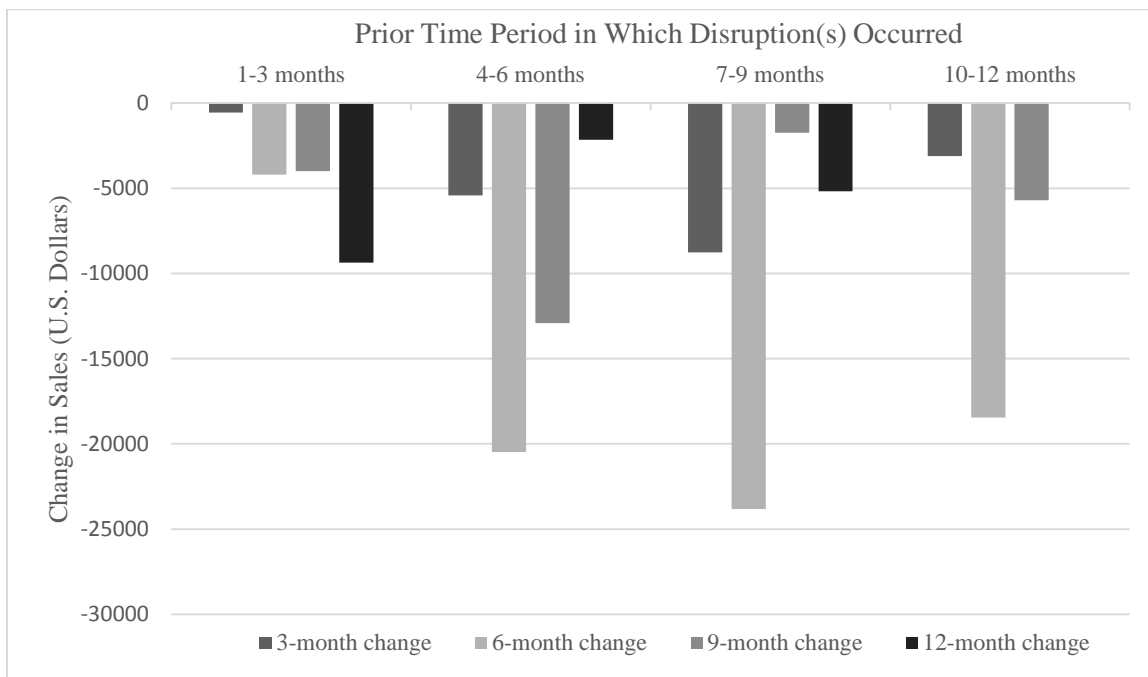
**Table 3 – Effects of Prior Disruptions (H3)**

		Model 1: CEM Weights Included		Model 2: CEM Weights Not Included	
<u>Predicted Relationship</u>	<u>Hyp.</u>	<u>B</u>	<u>SE</u>	<u>B</u>	<u>SE</u>
Prior_Disruptions_3mo → Change_Sales_3mo	H3	-561	684	-2,247**	775
Prior_Disruptions_3mo → Change_Sales_6mo	H3	-4,203**	1,383	-12,497**	1,372
Prior_Disruptions_3mo → Change_Sales_9mo	H3	-3,999*	2,07	-17,333**	2,066
Prior_Disruptions_3mo → Change_Sales_12mo	H3	-9,357**	2,347	-20,291**	3,251
Prior_Disruptions_6mo → Change_Sales_3mo	H3	-5,423**	838	-3,655**	1,008
Prior_Disruptions_6mo → Change_Sales_6mo	H3	-20,474**	1,638	-24,358**	1,837
Prior_Disruptions_6mo → Change_Sales_9mo	H3	-12,908**	2,638	-18,967**	2,780
Prior_Disruptions_6mo → Change_Sales_12mo	H3	-2,150	3,994	-13,768*	5,536
Prior_Disruptions_9mo → Change_Sales_3mo	H3	-8,758**	951	-11,724**	1,179
Prior_Disruptions_9mo → Change_Sales_6mo	H3	-23,831**	2,044	-31,099**	2,277
Prior_Disruptions_9mo → Change_Sales_9mo	H3	-1,738	4,814	-20,041**	5,391
Prior_Disruptions_9mo → Change_Sales_12mo	H3	-5,180	10,754	-31,654*	15,657
Prior_Disruptions_12mo → Change_Sales_3mo	H3	-3,118**	1,015	-3,427**	1,192
Prior_Disruptions_12mo → Change_Sales_6mo	H3	-18,459**	2,57	-24,810**	2,820
Prior_Disruptions_12mo → Change_Sales_9mo	H3	-5,704	7,657	-8,679	8,735

\*  $p < .05$ , \*\*  $p < .01$

time period, but findings are non-significant at 10-12 months after the current time period ( $B = -2,150$ ,  $p = .59$ ). Here, we see that the impact of the disruption on customer spending is now observed within the nine months after the current time period. Additional evidence of this pattern emerges when examining the impact of disruptions occurring 7-9 months and 10-12 months prior to the current time period. For disruptions occurring 7-9 months prior, we see a significant decrease in sales in the 1-3 month ( $B = -8,758$ ,  $p < .01$ ) and 4-6 month ( $B = -23,831$ ,  $p < .01$ ) time period following the current time period, but non-significant effects are observed at 7-9

months ( $B = -1,738, p = .72$ ) and 10-12 months out ( $B = -5,180, p = .63$ ). A similar pattern of results is also observed for disruptions occurring 9-12 months prior to the current time period (as reported in Table 3).



**Figure 2 – Effects of Disruptions in Prior Time Periods**

#### Not Including CEM weights in Analysis

Differences are once again observed between the results with and without the matching weights included in the analysis. Comparing the results in Table 3, we can identify four instances where the effect of prior disruptions on customer purchasing behavior was found to be non-significant when tested with matching weights in the analysis, but were found to be strongly significant when those weights were removed. Additionally, as noted previously, the effect sizes are almost uniformly higher with the regression weights turned off (with just one exception, prior\_disruptions\_6mo on change\_sales\_3mo), and in many instances the effects are two or more times the size.

#### Summary of Findings

The findings testing the effects of prior disruptions on sales in successive time periods further validates the pattern of findings observed in H1 when examining discrete disruption events in the current time period. Examining all of the results to this point, we see a clear pattern whereby the effects of disruptive events on sales are not generally observed until the period 4-6 months after a disruption (a lagged effect), followed by multiple time periods of significant, negative sales growth, before the effect is no longer observed, typically between 10-15 months after the disruptive event occurred.

## **Moderating Effect of Relationship Tenure**

### Including CEM weights in Analysis

H4 predicted that relationship tenure would attenuate the negative effects of disruptive events on customer purchasing. To test this prediction, we conducted a series of weighted regressions with the independent variables `disruption_binary`, `total_disruptions_6mo`, and `total_disruptions_12mo` rotated into the analysis, along with relationship tenure, and the interaction term of the two variables included as predictors of customer sales. The results demonstrate partial support for our prediction. The interaction between `disruption_binary` and relationship tenure was found to be non-significant on the `change_sales` variables for all four time periods following the present time period (see Table 4 for all results testing H4). However, in support of our hypothesis, we did find a significant interaction between relationship tenure and multiple disruptions totaled over previous time periods. The interaction between relationship tenure and `total_disruptions_6mo` had a significant, positive effect on `change_sales_3mo` ( $B = 28.41, p < .01$ ) and `change_sales_6mo` ( $B = 59.38, p < .01$ ). Likewise, we found significant, positive interactions between relationship tenure and `total_disruptions_12mo` over the same time periods (`change_sales_3mo`:  $B = 22.18, p < .01$ ; `change_sales_6mo`:  $B = 49.31, p < .01$ ). These findings indicate that a buffering effect exists such that the impact of multiple disruptions is reduced over the 1-3 and 4-6 month time period as relationship tenure increases. The interaction effects were non-significant on `change_sales_9mo` and `change_sales_12mo` for both `total_disruptions_6mo` and `total_disruptions_12mo`.

### Not Including CEM weights in Analysis

As seen in Table 4, we actually observe the same effects of relationship tenure on the relationship between disruptions and supplier sales with the CEM weights turned off as we do with the weights included in the analysis.

### Summary of Findings

The findings suggest that relationship tenure serves to “buffer” suppliers against sales decreases following a disruption as evidenced by the positive regression coefficients reported above.<sup>5</sup> However, this effect is only observed when examining the effects of multiple disruptive events and is only found to hold in the time periods 1-3 months and 4-6 months after the present time period. This suggests that suppliers receive the benefit of the doubt from their longest tenured customers following successive disruptions, but will feel a more significant backlash from less-tenured customers when multiple disruptions are experienced. Surprisingly, we do not see this same buffering effect of relationship tenure when only a single disruptive event has occurred. Additionally, it is interesting to note that we again observe a pattern of effects where disruptions occurring in the more distant past result in significant changes in customer

---

<sup>5</sup> The regression coefficients represent the amount that a one-month increase in customer tenure increases customer sales. In this case, a positive coefficient means that sales decrease by a smaller amount (the amount of the regression coefficient) following disruptions as customer tenure increases.

purchasing in the more immediate time periods, but dissipate more than six months after the current time period.

**Table 4 – Moderating Effect of Customer Tenure (H4)**

			Model 1: CEM Weights Included		Model 2: CEM Weights Not Included	
<u>Predicted Relationship</u>	<u>Change Sales DV</u>	<u>Hyp.</u>	<u>B</u>	<u>SE</u>	<u>B</u>	<u>SE</u>
Disruption_Binary x Customer_Tenure	3mo	H4	-.03	1.55	.68	2.04
Disruption_Binary x Customer_Tenure	6mo	H4	2.73	3.14	3.39	3.70
Disruption_Binary x Customer_Tenure	9mo	H4	-5.30	4.72	-6.28	5.36
Disruption_Binary x Customer_Tenure	12mo	H4	-5.75	5.63	-2.70	8.52
Total_Disruptions_6mo x Customer_Tenure	3mo	H4	28.41**	4.06	18.89**	4.52
Total_Disruptions_6mo x Customer_Tenure	6mo	H4	59.38**	8.11	31.55**	8.13
Total_Disruptions_6mo x Customer_Tenure	9mo	H4	-6.19	12.75	-8.40	12.04
Total_Disruptions_6mo x Customer_Tenure	12mo	H4	-1.85	15.09	9.16	18.71
Total_Disruptions_12mo x Customer_Tenure	3mo	H4	22.18**	2.74	10.23**	3.21
Total_Disruptions_12mo x Customer_Tenure	6mo	H4	49.31**	5.97	24.14**	6.30
Total_Disruptions_12mo x Customer_Tenure	9mo	H4	-.82	11.72	-3.38	10.81
Total_Disruptions_12mo x Customer_Tenure	12mo	H4	.69	14.86	10.12	18.07

\*  $p < .05$ , \*\*  $p < .01$

## DISCUSSION, IMPLICATIONS, AND RESEARCH DIRECTIONS

It is well established in the literature that disruptive events can impact exchange relationships in a number of important ways. However, despite volumes of research investigating the impact of disruptions on subsequent buyer behavior, there is still much we do not understand about consumer responses to these events. This paper sought to address three key shortcomings in the literature. First, while there is an abundance of research in the services literature that analyzes the effects of service failures in a B2C context, there is a relative dearth of research that exists to study similar events in a B2B context. Calls have been made for more empirical

research in this area to highlight the key distinctions that exist between B2B and B2C exchange relationships (Hollmann et al. 2015). Second, research on disruptive events to this point has largely assessed the impact of these events on “soft” measures such as customer satisfaction, emotional response, and loyalty intentions. Less clear in the literature is the impact that disruptive events have on firm financial performance. A richer understanding of the effects of disruptive events can be constructed by knowing how these events impact a firm’s top line. Finally, the B2B literature has previously studied the impact of high-magnitude disruptions on the exchange relationship. Much of this research was concerned with understanding the types of events that might bring about the complete dissolution of the relationship, with opportunistic behavior receiving most of the attention. It is important to develop an understanding of how inter-firm relationships are affected by the day-to-day “bumps in the road” that often appear benign, but can still exact a significant toll.

The findings of the present research are among the first to empirically demonstrate the effects of seller-caused disruptive events on consumer purchasing behavior in a B2B setting. We find that seller-caused disruptions lead to a significant reduction in consumer spending in the time periods following the disruption, and that this scale-back in spending is amplified by the incidence of multiple disruptions. More informative, however, is the finding that it takes time before firms feel the impact of customer cutbacks following a disruption, and those cutbacks can linger for a prolonged period of time. To our knowledge, we are the first to demonstrate this unique pattern of effects in the failure/disruption literature. These findings offer important insights for scholars and practitioners alike about the toll disruptions take on exchange relationships. Below, we expound upon these insights by examining the theoretical and managerial implications of our findings and consider how these results can be built upon in future research.

### **Theoretical Implications**

The findings of this research have implications for both the theoretical frameworks through which disruptive events have been assessed, as well as for the analysis of observational research. Beginning with the expectancy-disconfirmation paradigm, our findings suggest that more research is needed to understand the ways in which B2B and B2C relationships differ with respect to how buyers respond to negatively disconfirmed expectations. While the responses may be similar in some regards (elicitation of negative emotions, decreased repurchase intentions), the findings of our research indicate that important differences do exist. Namely, we find that there is a delayed effect of disruptive events on customer spending in B2B relationships that is not reported in B2C relationships. According to our findings, there is a lagged effect of disruptions on customer purchasing behavior. Customers experiencing a disruption in the present time period were not observed to have significant reductions in their spending until the period 4-6 months removed from the disruption. This is an interesting finding and there is very little reported evidence of such a lagged effect in the extant literature. In fact, in the B2C domain where most of the research on disruptions in buyer-seller relationships exists to this point, we typically observe negative customer responses following a disruptive event (such as dissatisfaction and switching behaviors) as beginning in the period of time immediately following the event, when emotions are at their highest. The finding that customer responses to B2B disruptive events are not observed until months after the disruption demonstrates how

different the nature of buyer-seller relationships are between the B2C and B2B domains and validates the call for more research on inter-firm relationships.

Additionally, our findings offer more evidence to support the presence of a buffering effect for higher quality relationships when disruptive events occur. Previous research has advanced competing hypotheses that either a buffering or a magnifying effect could be observed when a disruptive event occurs in a strong exchange relationship. The buffering hypothesis suggests that customers will forgive the incidence of a disruption because they have had an otherwise good experience with the supplier and, with respect to expectancy theory, they anticipate that the disruption was a one-time mistake and things will again return to normal moving forward (Sajtos et al. 2010). The magnifying hypothesis proposes that the opposite reaction will be observed; that because a long-tenured customer's expectations are to be a priority for the supplier, the customer would respond even more negatively if a disruption were to occur (Sajtos et al. 2010). Harmeling et al. (2015) demonstrated that buffering effects are realized for customers with strong relationships, but that this only holds for disruptive events involving product or service failures. Non-service or product related issues, such as opportunistic acts or norm violations trigger a magnifying effect. Our results analyzing the effects of service and product failures offer additional empirical evidence of a buffering effect to support this recent finding, though we were only able to establish the presence of this effect for multiple disruptions.

Importantly, the findings of this research also establish that lower-magnitude "bumps in the road" can still have a significant impact on inter-firm exchange relationships. While highly severe disruptive events have received most of the attention in the literature, we find that more commonplace issues such as product and service-related disruptions can also result in significant decreases in customer spending. This finding is informative for theories of relationship lifecycles and longevity. Where it has been established that major disruptions can hasten the dissolution of exchange relationships, research has been silent about the impact of smaller issues. The research presented here suggests that while these bumps in the road may not lead to the immediate demise of the exchange relationship, buyers do show signs of withdrawing from the relationship following even a single disruption, and this scale-back is only magnified when multiple disruptions are experienced. These findings suggest that lower-magnitude disruptions need to factor into the calculus of how inter-firm exchange relationships develop and unravel over time.

Our findings also have implications for the way in which researchers analyze observational data. We demonstrate that notable differences exist when the data is analyzed both with and without the use of matching procedures. In the social sciences, particularly within business disciplines, it is a generally accepted practice to analyze observational data in a straightforward fashion (no matching). However, we empirically demonstrate that the use of matching procedures can yield distinctly different and more accurate estimates by comparison. These findings suggest that scholars need to more carefully consider the nature of their research designs and the selected analytical techniques they will use to test their predictions. This is especially true in the marketing strategy arena where the analysis of observational data is common.

### **Managerial Implications**

This research also has important implications for managers. Among the most important findings is that smaller-scale disruptive events can blossom into larger issues for suppliers in



terms of lost sales. Traditionally, management theory submits that the largest and most pressing issues should receive the most attention. Smaller issues are typically set aside and dealt with after the bigger issues have been handled, if they are able to be dealt with at all. While major disruptive events should be dealt with quickly and appropriately, our research suggests that managers need to be mindful of smaller issues as well. What may seem like a run-of-the-mill product or service issue to a supplier, may in fact be an issue of major importance to the buyer. Managers choosing to ignore these events do so at their own peril. As our findings indicate, these lower-magnitude events still generate a significant scale-back in customer purchasing that can last for multiple quarters. Managers need to make every effort to acknowledge and satisfactorily resolve *all* disruptive events for customers to prevent a drop-off in firm financial performance.

Another important finding from this research that managers should take note of is the lagged effect of disruptions in B2B relationships. As managers attempt to monitor the relative health of relationships with its customers, one tactic employed is to track a number of key metrics that provide indications of the stability of the relationship and would alert management to any potential issues. One of the metrics commonly tracked is customer sales trends such as month-over-month or year-over-year customer spending. These trends alert managers when customer purchasing behavior changes significantly and could be indicative of an issue in the exchange relationship. With this in mind, our findings suggest that it could be dangerous for managers to rely on that information for an accurate assessment of the current state of the relationship given the lagged effect on sales we observe in our analysis. By the time a significant change in customer purchasing behavior would be observed using this monitoring tactic (between 4 and 6 months post-disruption according to our findings), it may be too late or too difficult for firms to recover from the disruption. This suggests that managers need to be closely attuned to the status of exchange relationships and rely on multiple sources of information to alert them to potential issues so that responses can be properly formulated and implemented as expeditiously as possible.

An additional implication of this research for managers relates to the analysis of firm data. This study was carried out using exclusively data that would be available to a practitioner. That is, all of the effects tested used variables that were either already created by the manufacturer, or that could be calculated using the data provided by the manufacturer. Importantly though, while data of this sort may be available for firms to analyze on their own, our results show that firms need to be mindful of the procedures used to analyze observed data. We found repeated instances in our analysis in which the results produced when the matching weights were included in the regression analysis differed, sometimes substantially, from the results produced with the weights turned off. Firms rely on analysis such as this to make important strategic decisions. However, the analysis of this data is only valuable to a firm if the correct analytical procedures are followed. Our results suggest that utilizing matching procedures to first condition observed data prior to analysis will yield the most accurate results for practitioners to interpret.

### **Limitations and Future Research Directions**

A primary limitation of this research is the absence of information about the nature of the disruptive events experienced by the manufacturer, outside of their presence or absence. A more detailed description of the disruptive events that occurred, including the causal attributions for the disruption and an assessment of their severity, would have allowed additional analysis to

be performed and a richer understanding of these events to materialize. Additionally, the disruptive events analyzed in this dataset only included product and service disruptions. Though research has supported that these are the most prevalent forms of disruptions observed in B2B exchange relationships (Zhu and Zolkiewski 2015), these are just two of the many forms of disruptions that can occur in buyer-seller relationships. Observations of other forms of disruptions (i.e. opportunistic acts, unfairness, conflict) would have enabled us to contrast how different forms of disruptions impact supplier sales. Future research can address these issues by collecting data directly from customers to assess the nature and characteristics of the disruptions experienced.

While the use of objective performance data is a contribution of this research, the model would benefit from the additional assessment of traditional relational metrics such as customer satisfaction, trust, and commitment. Including these additional measures as mediators would add explanatory power to the model to clarify why sales are negatively impacted by disruptive events to the degree that we observe. Future research could utilize a longitudinal survey-based data collection to track measures of customer assessments of the relationship and then integrate those findings with the objective firm data to build a more comprehensive model.

Finally, a significant limitation of the present research is that it only examines the impact of disruptions caused by a single supplier in a single industry. While we can study the effects and even infer causality based on the methods used, we are limited in our ability to generalize these findings given that they were only observed for a single firm. Future research should replicate the work presented here with a larger sample of companies to draw more convincing conclusions about the impact of disruptive events on objective firm performance across all B2B industries.

## REFERENCES

- Austin, Peter C. and Elizabeth A. Stuart (2015), "Moving Towards Best Practice When Using Inverse Probability of Treatment Weighting (IPTW) Using the Propensity Score to Estimate Causal Treatment Effects in Observational Studies," *Statistics in Medicine*, 34 (28), 3661-3679.
- Baxter, Leslie A. and Connie Bullis (1986), "Turning Points in Developing Romantic Relationships," *Human Communication Research*, 12 (4), 469-493.
- Bejou, David and Adrian Palmer (1998), "Service Failure and Loyalty: An Exploratory Empirical Study of Airline Customers," *Journal of Services Marketing*, 12 (1), 7-22.
- Bolton, Ruth N. and James H. Drew (1991), "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research*, 17 (4), 375-384.
- , Katherine N. Lemon, and Matthew D. Bramlett (2006), "The Effect of Service Experiences over Time on a Supplier's Retention of Business Customers," *Management Science*, 52 (12), 1811-1823.
- Boulding, William, Ajay Kalra, Richard Staelin, and Valerie A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, 30 (1), 7-27.
- Brown, James R., Chekitan S. Dev, and Dong-Jin Lee (2000), "Managing Marketing Channel Opportunism: The Efficacy of Alternative Governance Mechanisms," *Journal of Marketing*, 64 (2), 51-65.
- Bunker, Matthew P. and Matthew S. Bradley (2007), "Toward Understanding Customer Powerlessness: Analysis of an Internet Complaint Site," *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior*, 20, 54-71.
- Dehejia, Rajeev H. and Sadek Wahba (2002), "Propensity Score-matching Methods for Non-experimental Causal Studies," *Review of Economics and Statistics*, 84 (1), 151-161.
- Dwyer, F. Robert, Paul H. Schurr, and Sejo Oh (1987), "Developing Buyer-Seller Relationships," *Journal of Marketing*, 51 (2), 11-27.
- Halinen, Aino and Jaana Tähtinen (2002), "A Process Theory of Relationship Ending," *International Journal of Service Industry Management*, 13 (2), 163-180.
- Harmeling, Colleen M., Robert W. Palmatier, Mark B. Houston, Mark J. Arnold, and Stephen A. Samaha (2015), "Transformational Relationship Events," *Journal of Marketing*, 79 (5), 39-62.
- Hart, Christopher W., James L. Heskett, and W. Earl Sasser, Jr. (1990), "The Profitable Art of Service Recovery," *Harvard Business Review*, 68 (July-August), 148-156.

- Hayes, Andrew F. and Li Cai (2007), "Using Heteroskedasticity-consistent Standard Error Estimators in OLS Regression: An Introduction and Software Implementation," *Behavior Research Methods*, 39 (4), 709-722.
- Hess, Ronald L., Shankar Ganesan, and Noreen M. Klein (2003), "Service Failure and Recovery: The Impact of Relationship Factors on Customer Satisfaction," *Journal of the Academy of Marketing Science*, 31 (2), 127-145.
- Hibbard, Jonathan D., Nirmalya Kumar, and Louis W. Stern (2001), "Examining the Impact of Destructive Acts in Marketing Channel Relationships," *Journal of Marketing Research*, 38 (1), 45-61.
- Hollmann, Thomas, Cheryl Burke Jarvis, and Mary Jo Bitner (2015), "Reaching the Breaking Point: A Dynamic Process Theory of Business-to-Business Customer Defection," *Journal of the Academy of Marketing Science*, 42 (2), 257-278.
- Iacus, Stefano M., Gary King, and Giuseppe Porro (2009), "CEM: Software for Coarsened Exact Matching," *Journal of Statistical Software*, 30 (9), 1-27.
- Keaveney, Susan M. (1995), "Customer Switching Behavior in Service Industries: An Exploratory Study," *Journal of Marketing*, 59 (2), 71-82.
- King, Gary, Matthew Blackwell, Stefano Iacus, and Giuseppe Porro (2010), "CEM: Coarsened Exact Matching in Stata," *The Stata Journal*, 9 (4), 524-546.
- Maxham III, James G. and Richard G. Netemeyer (2003), "Firms Reap What They Sow: The Effects of Shared Values and Perceived Organizational Justice on Customers' Evaluations of Complaint Handling," *Journal of Marketing*, 67 (1), 46-62.
- McCollough, Michael A., Leonard L. Berry, and Manjit S. Yadav (2000), "An Empirical Investigation of Customer Satisfaction after Service Failure and Recovery," *Journal of Service Research*, 3 (2), 121-137.
- McLean, Kate C. and Michael W. Pratt (2006), "Life's Little (and Big) Lessons: Identity Statuses and Meaning-making in the Turning Point Narratives of Emerging Adults," *Developmental Psychology*, 42 (4), 714-722.
- Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58 (3), 20-38.
- Palmatier, Robert W., Rajiv P. Dant, and Dhruv Grewal (2007), "A Comparative Longitudinal Analysis of Theoretical Perspectives of Interorganizational Relationship Performance," *Journal of Marketing*, 71 (4), 172-194.

- , -----, -----, and Kenneth R. Evans (2006), "Factors Influencing the Effectiveness of Relationship Marketing: A Meta-analysis," *Journal of Marketing*, 70 (4), 136-153.
- Parasuraman, Ananthanarayanan, Valerie A. Zeithaml, and Leonard L. Berry (1994), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research," *Journal of Marketing*, 58 (1), 111-124.
- Ping, Robert A. and F. Robert Dwyer (1992), "A Preliminary Model of Relationship Termination in Marketing Channels," in *Advances in Distribution Channel Research*, Vol. 1, G.L. Frazier, ed. Greenwich, CT: JAI Press, 215-233.
- Roos, Inger (2002), "Methods of Investigating Critical Incidents: A Comparative Review," *Journal of Service Research*, 4 (3), 193-204.
- Sajtos, Laszlo, Roderick J. Brodie, and James Whittome (2010), "Impact of Service Failure: The Protective Layer of Customer Relationships," *Journal of Service Research*, 13 (2), 216-229.
- Samaha, Stephen A., Robert W. Palmatier, and Rajiv P. Dant (2011), "Poisoning Relationships: Perceived Unfairness in Channels of Distribution," *Journal of Marketing*, 75 (3), 99-117.
- Seggie, Steven H., David A. Griffith, and Sandy D. Jap (2013), "Passive and Active Opportunism in Interorganizational Exchange," *Journal of Marketing*, 77 (November), 73-90.
- Sidney, J.A., C. Coberley, J.E. Pope, and A. Wells (2015), "Extending Coarsened Exact Matching to Multiple Cohorts: An Application to Longitudinal Well-being Program Evaluation Within an Employer Population," *Health Services and Outcomes Research Methodology*, 15 (2), 136-156.
- Sivakumar, K., Mei Li, and Beibei Dong (2014), "Service Quality: The Impact of Frequency, Timing, Proximity, and Sequence of Failures and Delights," *Journal of Marketing*, 78 (1), 41-58.
- Skousen, Mark. "Gross Domestic Product Leaves Out \$21 Trillion in Business Spending." *Townhall Finance*. December 30, 2015.  
<http://finance.townhall.com/columnists/markskousen/2015/12/30/gross-domestic-product-leaves-out-21-trillion-in-business-spending-n2097630>.
- Thoemmes, Felix J. and Eun Sook Kim (2011), "A Systematic Review of Propensity Score Methods in the Social Sciences," *Multivariate Behavioral Research*, 46 (1), 90-118.
- van Doorn, Jenny and Peter C. Verhoef (2008), "Critical Incidents and the Impact of Satisfaction on Customer Share," *Journal of Marketing*, 72 (4), 123-142.

Wathne, Kenneth H. and Jan B. Heide (2000), "Opportunism in Interfirm Relationships: Forms, Outcomes, and Solutions," *Journal of Marketing*, 64 (October), 36-51.

Williamson, Oliver E. (1985). *The Economic Institutions of Capitalism*. Simon and Schuster.

Wu, Cou-Chen and Yu Hsuan Lo (2012), "Customer Reactions to Encountering Consecutive Service Failures," *Journal of Consumer Behaviour*, 11 (3), 217-224.

Yu, Daniela and Julie Lamski. "Service Failures Have Harsh Consequences for B2B Companies." *Business Journal*. September 21, 2015.  
<http://www.gallup.com/businessjournal/185783/service-failures-harsh-consequences-b2b-companies.aspx>.

Zeithaml, Valerie A., Leonard L. Berry, and Arantharathan Parasuraman (1993), "The Nature and Determinants of Customer Expectations of Service," *Journal of the Academy of Marketing Science*, 21 (1), 1-12.

Zhu, Xia and Judy Zolkiweski (2015), "Exploring Service Failure in a Business-to-Business Context," *Journal of Services Marketing*, 29 (5), 367-379.

## **ESSAY THREE MINDSET MATTERS**

### **INTRODUCTION**

As the field of relationship marketing has formed and grown into a distinct domain within the marketing discipline, the main thrust of research in this area has emphasized the development and long-term maintenance of exchange relationships. Popular topics of interest within the domain have included relationship governance, life cycle models, performance assessment, and mediating mechanisms, among others. However, as research in this area has blossomed, it is notable that very few empirical works have endeavored to investigate how inter-firm (B2B) relationships break down and fail over time. This stands in stark contrast to research in the area of business-to-consumer (B2C) relationships, where a large volume of research has been compiled investigating the effects of service failure episodes. The present research attempts to address this significant shortcoming in the literature.

Supplier firms stand to benefit from a more complete understanding of buyer responses to the occurrence of disruptive events, defined here as incidents occurring in the exchange relationship that weaken, undermine, or severely damage the relationship. Disruptive events both large and small can be detrimental to exchange relationships. While high magnitude disruptions such as opportunistic acts tend to receive the brunt of the attention in the literature, less severe “bumps in the road” such as general conflict or service failures can still exact a significant toll on a relationship. Importantly, in some ways, less severe disruptions may be more dangerous to relationships over the long-term because they are often over-looked by sellers as minor issues that do not require significant recovery efforts to resolve. Yet, as evidenced in Dissertation Essay 2, buyers may have entirely different reactions to these small “bumps” and may opt to curtail their purchasing behavior or even switch suppliers altogether. Additional research on low-severity disruptive events in inter-firm relationships is needed to draw more informed conclusions regarding their impact on relational outcomes of interest.

Using data collected from the customers of a large, multi-national consumer goods manufacturer, we address this gap in the literature by building a conceptual model to explain the drivers of exchange relationship performance, and then examine how this model is moderated when we consider groups of customers who have experienced a disruptive event against customers who have not. In doing so, we make three substantive contributions to the field. First, in our model we examine both relational and non-relational drivers of exchange relationship performance to account for a diverse set of antecedent factors that predict relationship success. Prior research of disruptive events in a B2B setting has almost exclusively focused on the effects of disruptive events on relational elements such as norms, trust, and commitment, ignoring non-relational elements such as product and service quality which clearly influence relationship outcome measures of interest such as sales performance. It is our contention that disruptive events affect exchange relationship outcomes along two different paths – one path being through customer evaluations of “relational” elements, such as the adherence to relational norms, that generally influence perceptions of trust in the relationship, and the other path being through customer evaluations of “non-relational” elements, such as product and service quality, that generally influence customer satisfaction in the relationship. Using theory drawn from multiple paradigms, we attempt to build a more comprehensive model than those previously advanced in

the literature that captures both the relational and non-relational contributors to exchange relationship performance.

Second, heeding calls for research that utilizes both self-report and objective performance data (Verhoef 2003), our analysis pools data from both a survey of customers and a database of financial and customer service data provided by the manufacturer. This method gains the advantage of establishing customer perceptions, intentions, and observed behavior with respect to the exchange relationship, all within the same analysis. A significant shortcoming of the existing research on inter-firm exchange relationships is that much of the work conducted to this point is either conceptual in nature (van Doorn and Verhoef 2008) or, when empirical assessments are performed, uses the critical incident technique and/or survey based methodologies. Very few studies in the B2B domain have assessed the effects of disruptive events using objective firm data, and fewer still have tested those effects on objective measures of relationship performance as we do in the present research.

Finally, as already alluded to above, we address a significant omission in the literature by investigating the effects of low-severity disruptive events on inter-firm exchange relationships. Prior work in this area is limited, and the research that has investigated inter-firm disruptions has overwhelmingly focused on high magnitude events that would be expected to elicit a strong and swift response from buyers. We investigate the impact of lower magnitude events such as product and service-related issues to determine how these events impact customer intentions and behavior. Moreover, beyond simply establishing a main effect of disruptive events on overall performance, we use a path analysis technique to explore the specific relational exchange constructs affected by a disruption. Interestingly, in support of our exploration of both the relational and non-relational drivers of exchange relationship performance, the findings suggest that while the “relational” elements of norms and trust are weighed carefully in the presence of a disruption, the “non-relational” evaluation of service quality seems to explain a great deal of the variation in customer behavior following a disruptive event. Given that the service component of the exchange is typically an afterthought in the B2B literature, this finding signals the need for a reexamination of the role of service in sustaining healthy inter-firm exchange relationships.

The remainder of this paper is organized as follows: First, we introduce the relevant literature and establish a theoretically supported conceptual model that serves as the basis to test the effects of disruptive events on inter-firm exchange relationships. Next, we make several theoretically supported predictions about the direct and indirect relationships proposed in our conceptual model and empirically test those predictions using structural equation modeling. Finally, we review the contributions of this research, discuss the theoretical and managerial implications of our findings, and summarize future research directions.

## **THEORETICAL FRAMEWORK**

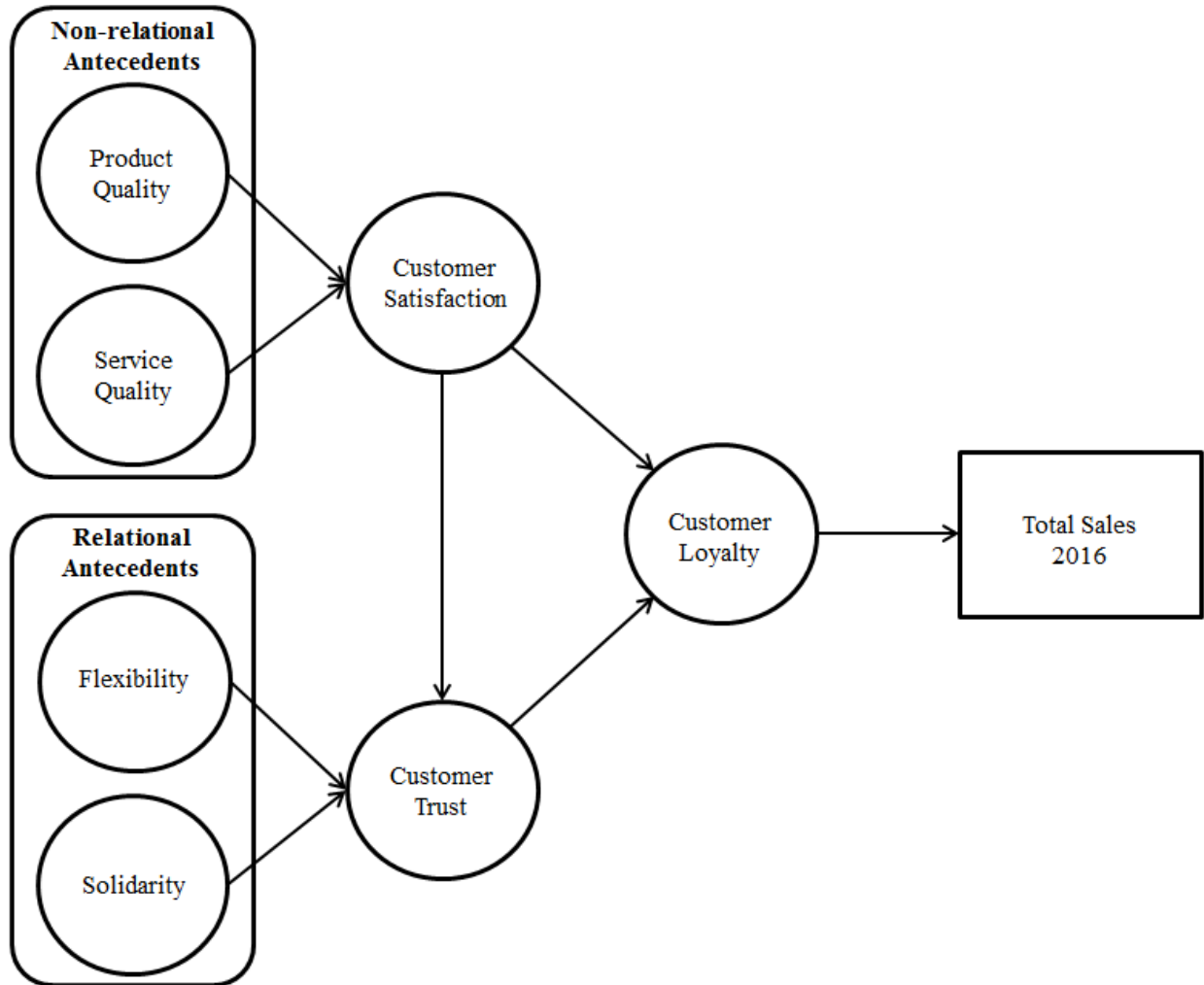
The success of inter-firm exchange relationships can be assessed using both objective and non-objective performance measures. While a standard measure of success for any firm is the ability to sell its product and services, there are a host of other variables that help to explain why customers buy the products and services offered by sellers. In our model, we examine three key “mindset” variables of interest – trust, customer satisfaction, and loyalty – and assess the impact each of these constructs exert on the seller’s objective performance (i.e. sales). Mindset variables, like a latent construct, are variables that cannot be objectively assessed, but rather are representative of a customer’s mentally-stored perceptions of the exchange relationship.



Additionally, we examine the effects of four key antecedent factors – flexibility, solidarity, product quality, and service quality - that sellers have direct control over, and which are expected to influence sales through these mindset variables. We organize these four antecedents into two different categories. First, we examine “relational antecedents”, which are drivers of exchange relationship success that are attributed to how buyers and sellers interact with each other. In our model, we focus on two relational norms, flexibility and solidarity, which have been demonstrated to play an important role in cultivating and sustaining successful inter-firm exchange relationships (Heide and John 1992). Second, we consider what we refer to as “non-relational antecedents,” which include the product and service-related elements of the exchange that are more easily and readily assessed by customers relative to their relational counterparts, particularly in the early stages of an exchange relationship. In our model, we include product quality and service quality as the non-relational antecedents that we expect to drive important relational outcomes (see Figure 1 for a depiction of the conceptual model). We propose that the relational antecedents of flexibility and solidarity will influence supplier sales through a trust – loyalty link and the non-relational antecedents of product and service quality will influence supplier sales through a satisfaction – loyalty link. Below, we begin with a review of the literature introducing the theoretical underpinnings that support the proposed relationships in our model and state the hypotheses that will be empirically examined in this research.

### **The Relational Path to Loyalty**

In the past quarter century, marketing scholars have increasingly discovered that, in addition to great products and customer service, the success of exchange relationships is also due in large part to a host of less-tangible relational elements. In the study of B2B exchange relationships, these relational elements are best examined through the lens of two predominant theories of exchange. Social exchange theory (SET) proposes that the exchange process involves sociological elements in addition to the economic elements generally associated with exchanges between buyers and sellers (Cao and Lumineau 2015). SET indicates that the exchange process is, in part, motivated by the returns parties are expected to obtain in an exchange, including the trust of the other party, the central outcome emphasized in SET (Blau 1964; Cropanzano and Mitchell 2005). Trust is defined as existing “when one party has confidence in an exchange partner’s reliability and integrity” (Morgan and Hunt 1994, p. 23) and is viewed as a foundational element for stable and ongoing social relations in SET (Blau 1964; Cao and Lumineau 2015; Palmatier et al. 2007). Trust has been posited as one of the most important explanatory variables of relational exchange performance (Doney and Cannon 1997; Morgan and Hunt 1992), and studies have verified its impact on a host of important relational outcomes, including cooperation, customer loyalty, and objective financial performance (Palmatier, Dant, Grewal, and Evans 2006). The second theory is relational exchange theory (RET). While SET is focused on the give and take between buyers and sellers to maintain balance in the relationship, the central premise of RET is that exchange relationships are governed by a shared set of norms, defined as the expectations regarding behavior of the respective parties comprising an exchange relationship (Cannon, Achrol, and Gundlach 2000; Cao and Lumineau 2015). Like social exchange theory, RET allows that trust is still instrumental to exchange, but posits that relational norms are the most important governing mechanism for transactions (Palmatier 2008). Adherence to norms in exchange relationships “engenders a win-



*Note:* Disruptive events are predicted to moderate the entire model, including all of the predicted paths.

**Figure 1: Conceptual Model – Theoretically Predicted Model**

win exchange atmosphere” whereby both parties stand to benefit from doing business together (Brown, Dev, and Lee 2000; Heide and John 1992).

Empirical research has established that relational norms are a key determinant of trust in exchange relationships. Morgan and Hunt (1994) were among the first to establish the importance of trust in inter-firm exchanges. Their model demonstrated a positive, direct effect of “shared values” on trust, which they indicate are synonymous with Heide and John’s (1992) conceptualization of norms (shared expectations). Later, Palmatier, Dant, and Grewal (2007) completed a comparative longitudinal study of interorganizational relationship performance in which they established a direct effect of relational norms on trust. While research has posited that as many as eight relational norms may be observed in a relationship, some norms are generally regarded as more important than others. Solidarity, or the extent to which high value is placed on the relationship (Bello, Chelariu, and Zhang 2003, Heide and John 1992) and flexibility, representing the willingness of exchange partners to make alterations and good faith adjustments

to the exchange relationship over time (Achrol and Gundlach 1999; Antia and Frazier 2001), are regarded as two of the most instrumental norms for exchange relationships (Heide and John 1992). Empirical research has demonstrated that both flexibility (see Doney and Cannon 1997; Ivens 2005) and solidarity (see Liu, Li, Tao, and Wang 2008) can influence trust in exchange relationships. In accordance with RET, we expect that the relational norms of flexibility and solidarity are instrumental in developing trust between buyers and sellers. Formally stated:

H1: Flexibility has a positive, direct effect on customer trust.

H2: Solidarity has a positive, direct effect on customer trust.

We further expect that flexibility and solidarity will exert a positive influence on customer loyalty through trust. Loyalty is among the most important outcome variables assessed in the field of marketing and is conceptualized in the literature as both an attitude and a behavior. Attitudinal loyalty represents a customer's desire or intention to remain in an exchange relationship with a supplier (Rosenberg and Czepiel 1984). In contrast, behavior loyalty removes the intention aspect from the definition and simply looks at whether or not a customer does continue to make purchases with a supplier, also known as repeat patronage (Gustafsson, Johnson, and Roos 2005; Yang and Peterson 2004). In the present research, we examine loyalty as a customer's intentions to make repeat purchases with the supplier in the future. The trust-loyalty link is well established in the literature. Trust is regarded as vital for the long-term success and stability of inter-firm relationships (Doney and Cannon 1997) and has been determined to be a critical mediating variable in models of inter-firm exchange performance (see Chaudhuri and Holbrook 2001; Evanschitzky et al. 2012; Garbarino and Johnson 1999; Homburg, Giering, and Menon 2003; Palmatier et al. 2006; Singh and Sirdeshmukh 2000; Sirdeshmukh, Singh, and Sabol 2002). Moreover, RET posits that the very nature of exchange becomes more relational, as opposed to discrete or transactional, as the frequency of exchange between two parties increases (Macneil 1980). Trust is an important intervening variable that RET and SET propose will increase the likelihood that two parties would want to continue doing business together. Accordingly, we predict:

H3: Trust has a positive, direct effect on customer loyalty.

H4: Flexibility has a positive, indirect effect on customer loyalty.

H5: Solidarity has a positive, indirect effect on customer loyalty.

### **The Non-Relational Path to Loyalty**

Customer satisfaction is among the most widely examined outcome measures in the field of marketing. While satisfaction has received a bit less attention in the study of B2B exchanges relative to B2C exchanges (perhaps owing to the presence of formal contracts in many B2B exchange relationships), it is nonetheless an extremely important driver of successful inter-firm exchange relationships. Customer satisfaction is typically examined as a mediating variable in the literature that helps to explain other relational outcomes of interest (Gustafsson et al. 2005). There are two different perspectives advanced in the literature for assessing customer

satisfaction. In the first perspective, customer satisfaction is assessed with respect to an individual transaction, typically emphasizing the emotional reaction of the customer during that specific exchange (Oliver 1993; Yang and Peterson 2004). In the second perspective, customer satisfaction is examined as the customer's overall evaluation of the performance of an offering or exchange party from the time the relationship was formed (Gustafsson et al. 2005; Johnson and Fornell 1991). Given the emphasis in the present research of evaluating exchange relationships formed over time and involving repeated exchanges, we take the approach of the second perspective and examine customer satisfaction as an overall evaluation of the exchange relationship up to the present point in time. We formally defined customer satisfaction as a judgment that a relationship with a supplier provides a desired level of purchase-related fulfillment (Homburg et al. 2003; Oliver 1996).

The expectancy – disconfirmation paradigm has been the predominant lens through which customer satisfaction has been examined in the field of marketing. Generally, this theory proposes that satisfaction is a function of a customer's a priori expectations of the selling firm and its products, the customer's perceptions of quality during consumption, and the discrepancy (or lack thereof) that exists between the expectations and the quality observed (Oliver 1980). Expectations are regarded as 1) confirmed when perceptions of quality match expectations, 2) positively disconfirmed when perceptions of quality exceed expectations, or 3) negatively disconfirmed when perceptions of quality are deemed to be below a priori expectations (Churchill and Surprenant 1982). While initial conceptions of this perspective stressed the direct impact of expectations and disconfirmation as the primary antecedents of satisfaction (Oliver 1980), subsequent work has demonstrated that perceived quality is just as important as the other antecedents in the model (Anderson and Sullivan 1993).

Importantly, perceptions of quality can be assessed with respect to different referents. Early work examining the antecedent causes of satisfaction emphasized product quality perceptions (see Churchill and Surprenant 1982; Olshavsky and Miller 1972), defined here as evaluations of the bundle of tangible attributes belonging to a physical product, including the features, brand name, and price (Rao and Monroe 1989). More recently, with the introduction of the service dominant logic emphasizing the role of service in all buyer-seller exchanges (see Vargo and Lusch 2004, 2006), perceptions of service quality have also been advanced as a significant driver of consumer satisfaction (Caruana 2000; Cronin and Taylor 1992). In our model, customer perceptions of service quality represent a holistic evaluation made of the service "output" and the service "process" (Gronroos 1984; Lehtinen and Lehtinen 1982). Consistent with expectancy theory, we predict the following direct effects:

H6: Product quality has a positive, direct effect on customer satisfaction.

H7: Service quality has a positive, direct effect on customer satisfaction.

In addition to the direct impact on satisfaction, we expect that product quality and service quality also exert a positive influence on loyalty, through satisfaction. Previous research has established that quality perceptions can indirectly impact loyalty through customer satisfaction evaluations. Caruana (2000) demonstrated that satisfaction mediated the relationship between service quality perceptions and loyalty to service providers. Others have established a relationship between perceived value (of which product and service quality evaluations are a critical component) and loyalty (see Parasuraman and Grewal 2000; Yang and Peterson 2004),

with customer satisfaction mediating the relationship. Further, a large collection of scholarly work has established a direct influence of customer satisfaction on customer loyalty. Surmising that satisfaction and loyalty are “linked inextricably,” Oliver (1999) examined six different conceptualizations of the relationship between satisfaction and loyalty and ultimately posited that over time customer satisfaction transforms into loyalty “like a caterpillar becomes transformed into a butterfly” (p. 42). Much additional empirical work has validated this satisfaction to loyalty link (see Bitner 1990; Bolton and Lemon 1999; Chandrashekar, Rotte, Tax, and Grewal 2007; Evanschitzky et al. 2012; Gustafsson et al. 2005; Homburg, Giering, and Menon 2003). Thus, we predict:

H8: Customer satisfaction has a positive, direct effect on customer loyalty.

H9: Product quality has a positive, indirect effect on customer loyalty.

H10: Service quality has a positive, indirect effect on customer loyalty.

### **The Bridge between Relational and Non-Relational Antecedents**

Importantly, we expect a relationship to exist between customer satisfaction and customer trust. Traditional models of inter-firm relational exchange performance typically tend to focus on “relational” mediating constructs of interest such as trust, commitment, and “relationship” satisfaction (not to be confused with the construct of overall satisfaction tested in the present research). Accordingly, in our model we have predicted that the “non-relational” antecedents of product and service quality will influence loyalty through customer satisfaction, and that the “relational” antecedents of flexibility and solidarity will influence loyalty through customer trust. However, while expectancy theory and relational exchange theory support organizing the model in this manner, there is also evidence in the literature to support that customer satisfaction, though formed by non-relational evaluations, will exert a positive influence on customer trust. Garbarino and Johnson (1999) demonstrate that trust and satisfaction can both serve as a primary mediating mechanism on customer loyalty dependent upon the nature of the exchange. When exchanges are transactional in nature, their research found that satisfaction mediates the relationship between trust and loyalty. Alternatively, as exchanges become more relational in nature, as is the case with the sample in the present research, trust mediates the relationship between satisfaction and loyalty. Perhaps one explanation that accounts for this influence of customer satisfaction on trust is the influence of service quality operating through satisfaction. Unlike product quality evaluations in which customers can form cold and calculated opinions about a tangible item in solitude, service generally requires dyadic interaction between exchange parties, and necessarily service quality evaluations will factor in those interactions. While service encounters are of a more discrete nature and should not be mistaken for relational exchange (Macneil 1980), these interactions can serve to progress the exchange relationship forward especially when the outcomes are positive and lead to increased customer satisfaction. Hence, we expect that customer satisfaction, partially derived from service quality evaluations, will have a direct effect on the relational outcome measure of customer trust. Formally stated:

H11: Customer satisfaction has a positive, direct effect on customer trust.

## **The Impact of Subjective Evaluations on Objective Performance**

In addition to evaluations of customer loyalty, a more telling outcome measure for firms is objective financial performance. While self-report measures of customer intentions can be informative, they can also be misleading as customers do not always follow through with actual repatronage behaviors. To combat this intentions to action disconnect, scholars have advocated for models that empirically demonstrate both measures of performance (Verhoef 2003). In our model, we use the total sales generated for each customer for the calendar year 2016 as the ultimate outcome variable of interest and predict that a self-report measure of customer loyalty will have a direct and positive impact on this objective measure of supplier performance. Research supports a loyalty – sales link. Oliver (1999) conceives of loyalty as existing in multiple phases, the last of which is referred to as “action loyalty” which falls within the behavioral perspective of loyalty. Action loyalty describes the state in which customers demonstrate a “readiness to act” which is expected to translate into “inertial rebuying” (Oliver 1999, p. 35). Empirical work has validated this reasoning. In a B2C context, Evanschitzky et al. (2012) demonstrated robust support across four different models of a direct effect from loyalty to objective financial performance for a retail firm, including on future sales. In a B2B sales context, Palmatier et al. (2007) examined differences between customer loyalty to a salesperson compared with customer loyalty to the firm and found that both forms of loyalty impact the objective financial performance of the selling firm (although loyalty to the salesperson was found to have a stronger influence in this case). In accordance with these findings, we predict:

H12: Customer loyalty has a positive, direct effect on supplier sales.

Additionally, we predict that our antecedent factors will exert a positive, indirect effect on supplier sales through the mediating constructs of satisfaction, trust, and loyalty in the model. Formally stated:

H13: Flexibility has a positive, indirect effect on supplier sales.

H14: Solidarity has a positive, indirect effect on supplier sales.

H15: Product quality has a positive, indirect effect on supplier sales.

H16: Service quality has a positive, indirect effect on supplier sales.

## **The Moderating Effect of Disruptive Events**

Most important to the present research is assessing how the occurrence of disruptive events - incidents or conduct occurring in the exchange relationship that weaken, undermine, or severely damage the relationship - impacts the exchange relationship model developed in Figure 1. Disruptive events can take many forms. Perhaps the most common form of disruption assessed in the literature is service failure, which has received extensive attention in the B2C domain where the impact of these events has been studied across many contexts. The B2B literature has dedicated much less attention to the issue of disruptive events. Rather than exploring how exchange relationships are terminated or broken down, the B2B literature has disproportionately

focused on how relationships are built up and structured to survive over time. However, we contend that this mindset is short-sighted given that disruptive events within an exchange relationship are regarded as inevitable (Hart, Heskett, and Sasser 1990; Hibbard, Kumar, and Stern 1991) and advocate for additional research to explore how a spectrum of disruptive events adversely impact exchange relationships. Understanding these effects can help firms anticipate disruptions, mitigate their impact, and, ideally, mend the relationship before the issue takes too great of a toll.

Though research on disruptive events in inter-firm relationships has been sparse, there are a few recent studies that have assessed their impact. Hibbard et al. (1991) investigated the response of exchange partners to destructive acts within the exchange relationship, which they define as actions “perceived by the aggrieved channel member as having a significant negative impact on the viability or functioning of the affected firm” (p. 46). The key findings from their study indicated that destructive acts of higher intensity (severity) and acts believed to be caused by an exchange partner both elicited stronger responses that were more detrimental to the long-term health of the exchange relationship. Samaha, Palmatier, and Dant (2011) examined a host of “relationship destroying factors,” including opportunistic behaviors, conflict, and unfairness, and determined that perceived unfairness by buyers was particularly detrimental to relationships by exerting both a direct effect on relationship performance, as well as exacerbating the effects of the other two forms of disruption. Most recently, Harmeling et al. (2015) found a significant damaging effect of negative “transformational relationship events” (disruptive events that disconfirm relational norms to a meaningful degree) on firm sales performance.

The major shortcoming of the preceding works as it pertains to our knowledge about the impact of disruptive events on inter-firm exchange relationships is that each of these studies focuses on high magnitude disruptions. While major disruptive events are certainly of concern to exchange partners, low-magnitude disruptions occur more frequently and can be just as detrimental to exchange relationships over the long-term, necessitating more research in this area. We explore the effect of low-magnitude disruptive events on exchange relationships through the lens of expectancy theory which postulates that customers compare the performance delivered by a firm, against the expectations they had for the performance prior to the exchange (Boulding, Kalra, Staelin, and Zeithaml 1993; McCollough, Berry, and Yadav 2000). Customer’s pre-trial expectations are typically formed over time, either through direct experience or knowledge accumulated about the product, service, or provider (Boulding et al. 1993; Zeithaml, Berry, and Parasuraman 1993). In the case of exchange relationships, expectations are largely informed by the direct interactions and experiences that customers have had with suppliers in the past. As relationships progress through time and expectations begin to form, customers also develop “zones of tolerance” around their expectations that constitute the range of acceptability with respect to the supplier’s performance (Parasuraman, Zeithaml, and Berry 1994). Research on disruptive events focuses on instances in which firm performance falls below this range of acceptability for customer expectations, also referred to as negative disconfirmation of expectations (McCollough et al. 2000). Negatively disconfirmed expectations can seriously affect customer satisfaction and present long-term challenges for exchange relationships (Bolton and Drew 1991). Even small “bumps in the road” can negatively disconfirm expectations enough to shake the foundation of an exchange relationship. In accordance with expectancy theory, we expect that significant differences will exist in our model between customers who have experienced a disruptive event in the past year and those who have not:

H17: Disruptive events will moderate the conceptual model, including all of the predicted paths.

## **METHODOLOGY**

### **Survey Design and Sample**

A survey-based methodology was employed to test our hypotheses. Survey responses were collected from current customers of a large, consumer goods manufacturer on two separate occasions. The first survey was administered in July of 2016 and the second was administered six months later in January of 2017, with both installments of the survey including the same set of focal measures. The manufacturer created a panel of 5,000 active customers with a recent purchasing history who were invited to participate in the study via an email from the customer service manager. In exchange for their participation, customers were informed that they would be entered into a drawing for a \$5,000 purchase credit with the manufacturer. In total, 626 companies participated in the study, with 69 companies completing both the first and second installment of the survey. In addition to the analysis that will be described here, we had also intended to analyze the respondent data longitudinally to assess changes between customer responses over the six months between data collections. However, because of an insufficient sample size to perform longitudinal analysis, the data were pooled together across both time periods for a total of 720 responses. Ultimately, 25 surveys were discarded for incomplete data (13) and duplicate responses from a single enterprise (12), culminating in a total of 695 usable responses (13.9% response rate).

The intent of the survey was to capture customer evaluations of their relationship with the manufacturer. We assessed customer perceptions of their relationship with the manufacturer along two lines of inquiry. One set of measures focused on assessments of the non-relational aspects of the exchange, namely product quality, service quality, and satisfaction. The other set of measures focused more heavily on the relational aspects of the exchange relationship, including relational norms and trust. Importantly, we were most interested to understand how customer perceptions differed between customers who had not experienced a recent disruptive event with the manufacturer and customers who had experienced a recent disruption. The presence of a recent disruptive event was captured in two ways. First, the manufacturer provided us with a history of all of the disruptive events that had been recorded in the internal “case management” system for the year 2016. The manufacturer considers disruptive events to be “cases” when the events are of pressing concern to the customer, cannot be resolved immediately, require further investigation, or require additional recovery actions for the customer. We were able to cross-reference the customer account numbers provided in the survey responses against the account numbers listed in the case management system to establish which customers had experienced an objectively tracked disruptive event for the year 2016. Additionally, in the second installment of the survey, we also allowed customers to self-report if they had experienced a disruptive event with the manufacturer within the past six months. In total, 148 of the 695 usable responses (21.3%) were submitted by customers who had experienced a disruptive event in the year 2016, either self-reported or objectively tracked in the case management system. The remaining 547 responses (78.7%) did not experience a disruptive event with the manufacturer in the year 2016.



## **Measurement and Analysis**

All of the measures included in the survey were adapted from established measures in the literature and responses were assessed on 5-point Likert-type scales (see Appendix E for a listing of the items, sources, and factor loadings). Two different models were estimated to test our hypotheses. The first model, henceforth referred to as the “theoretically predicted model,” consisted of four antecedent measures and four outcome measures. The antecedent measures included the relational factors of flexibility and solidarity (items for both adapted from Heide and John 1992), as well as the non-relational factors of product quality (items adapted from Buchanan, Simmons, and Bickart 1999) and service quality (items adapted from Parasuraman, Zeithaml, and Berry 1988). The outcome measures of interest included customer trust (items adapted from Morgan and Hunt 1994), customer satisfaction (items adapted from Gregoire and Fisher 2008), customer loyalty (items adapted from Palmatier, Scheer, and Steenkamp 2007) and total customer sales for the year 2016 (an observed variable – data provided by the manufacturer). The second model, henceforth referred to as the “alternative model,” included the same four antecedent measures, but removed satisfaction and trust (leaving loyalty and sales) as outcome measures in the model. Thus, the alternative model represents a reduced model that is consistent with the literature, but models the direct effects of the antecedent factors on loyalty, removing the intervening variables that contributed to the discriminant validity concerns.

## **Results for the Theoretically Predicted Model**

### **Confirmatory Factor Analysis**

We conducted a confirmatory factor analysis (CFA) for all of the self-report measures. The results indicated a good overall fit for the model with the comparative fit index (CFI) and root mean square error of approximation (RMSEA) both within the prescribed range for adequate model fit (see Hu and Bentler 1999) ( $\chi^2 = 681.77$  (254),  $p < .001$ ; CFI = .963; RMSEA = .049). All standardized factor loadings were greater than .50 and were statistically significant at  $p < .05$ . Additionally, the model demonstrated good construct validity and internal consistency with the composite reliabilities of all factors above .80 and the average variance extracted (AVE) for each above .55 (Hair et al. 1998). However, there is a question to be raised about the discriminant validity of the model. The test of discriminant validity recommended by Fornell and Larcker (1981), regarded as the most appropriate and rigorous test of discriminant validity in the field (Voorhees, Brady, Calantone, and Ramirez 2016), identified two instances in which the average variance extracted for a factor was lower than the squared phi-correlation between that factor and another factor in the model (see Table 1 for the results of the discriminant validity test). The proposed relationships in question are between service quality and satisfaction (squared correlation = .80, AVE's for service quality and satisfaction are .69 and .61, respectively) and between trust and loyalty (squared correlation = .65, AVE for loyalty is .55). However, additional tests of discriminant validity popularized in the literature offered support for discriminant validity in the model. The constrained phi approach advocated for by Anderson and Gerbing (1988) and Bagozzi and Phillips (1982) demonstrated that the unconstrained model fit the data significantly better than constrained models with paths from service quality to satisfaction, and from trust to loyalty, constrained to 1.0, respectively, indicating evidence of discriminant validity. Likewise, the confidence interval assessment, introduced by Anderson and

**Table 1: Discriminant Validity Assessment – Theoretically Predicted Model**

	<u>Variable</u>	<u>Items</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1	Flexibility	3	.62	.56	.16	.28	.29	.36	.34
2	Solidarity	3	.75	.60	.15	.25	.30	.47	.40
3	Product Quality	4	.40	.39	.66	.17	.25	.15	.15
4	Service Quality	3	.53	.50	.41	.69	.80	.44	.35
5	Satisfaction	4	.54	.55	.50	.89	.61	.57	.44
6	Trust	4	.60	.69	.39	.66	.75	.76	.65
7	Loyalty	4	.58	.63	.39	.59	.66	.81	.55

*Note:* Correlations are below the diagonal, squared correlations are above the diagonal, and AVE estimates are presented on the diagonal

Gerbing (1988) as a complimentary assessment to the constrained phi approach (Voorhees et al. 2016), also suggested evidence of discriminant validity as none of the confidence intervals for any of the inter-factor correlations in the model spanned 1.0. With respect to the relationship between satisfaction and service quality, previous research has documented that though these two constructs are theoretically distinct and assess different aspects of buyer-seller exchanges, they tend to have very high between-construct correlations when assessed in the same model (Gustafsson et al. 2005; Yang and Peterson 2004). This may account for the high phi-correlation observed between service quality and satisfaction in our model.

In light of the mixed evidence of discriminant validity observed with the theoretically predicted model, we proceed cautiously with the planned analysis, but also advance an alternative model that demonstrates evidence of discriminant validity across all three tests. The results of both models are presented below.

### **Direct Effects**

A structural equation model was estimated to assess the hypothesized relationships predicted in Figure 1. This model specified product quality, service quality, flexibility, and solidarity as exogenous variables and satisfaction, trust, loyalty, and total sales for the year 2016 as endogenous variables, with satisfaction, trust, and loyalty all serving as mediating constructs. The results indicate a good model fit ( $\chi^2 = 386.70$  (125),  $p < .001$ ; CFI = .959; RMSEA = .055). Beginning first with the direct effects of our antecedent factors on trust and satisfaction, we found mixed support for the hypothesized effects. H1, predicting a direct effect of flexibility on trust was not supported (standardized path estimate = .054,  $p = .282$ ), while H2 predicting a direct effect of solidarity on trust was supported (standardized path estimate = .386,  $p < .01$ ) (see Table 2). In support of H6 and H7, we found evidence of significant direct effects of product quality (standardized path estimate = .161,  $p < .01$ ) and service quality (standardized path estimate = .83,  $p < .01$ ) on satisfaction, respectively. For the direct effects involving the endogenous variables, a significant direct effect of satisfaction on customer trust was observed in support of H11 (standardized path estimate = .511,  $p < .05$ ), as were direct effects of trust (standardized path estimate = .725,  $p < .05$ ) and satisfaction (standardized path estimate = .117,  $p$

**Table 2: Hypotheses Results for Direct Effects – Theoretically Predicted Model**

<u>Hypothesis</u>	<u>Direct Effect</u>	<u>Standardized Path Estimate</u>	<u>p-value</u>
H1	Flexibility → Trust	.054	= .282
H2	Solidarity → Trust	.386	< .01
H3	Trust → Loyalty	.725	< .05
H6	Product Quality → Satisfaction	.161	< .01
H7	Service Quality → Satisfaction	.830	< .01
H8	Satisfaction → Loyalty	.117	< .05
H11	Satisfaction → Trust	.511	< .05
H12	Loyalty → Sales	.089	< .05

< .05) on loyalty in support of H3 and H8, respectively. Finally, we observed a significant, direct effect of loyalty on total customer sales for the year 2016 in support of H12 (standardized path estimate = .089,  $p < .05$ ).

Overall, the model fit and direct effect analyses indicate strong support for the theoretically predicted model. With the exception of H1 predicting the direct effect of flexibility on trust, all other predictions were significant and in the correct direction. The finding that flexibility does not predict consumer trust is surprising, especially in light of the fact that the supplier does not require contracts of its customers. However, the nature of the industry to which the supplier belongs, as well as their dominant position in that industry, may limit the amount of negotiation and bargaining present in its relationships with customers, which would account for lowered perceptions of flexibility.

### Indirect Effects

Next, we examined the indirect effects in the structural model through trust, satisfaction, and loyalty using a bootstrapping procedure to establish confidence intervals for the presence of mediation. Bootstrapping procedures for testing mediation have been advocated for relative to rival procedures such as Baron and Kenny's procedure and the Sobel test because of the additional power generated by bootstrapping (Zhao, Lynch, and Chen 2010). In this procedure, 2000 bootstrapped samples were generated (with replacement) at the 95% level of confidence. H4-H5 and H9-10 focused on the indirect effects of each of the four antecedent constructs, flexibility, solidarity, product quality, and service quality, on customer loyalty, and H13-H16 examined the indirect effects of these same antecedents on objective sales performance for the year 2016. Here, trust and satisfaction were only examined as intervening explanatory variables of loyalty and sales in the model. The results for the indirect effects are summarized in Table 3.

Beginning with the antecedent constructs, the findings indicate support for H5, H9 and H10 predicting indirect effects of solidarity (standardized estimate = .280,  $p < .01$ ), product quality (standardized estimate = .079,  $p < .01$ ), and service quality (standardized estimate = .404,  $p < .01$ ) on customer loyalty. However, we did not find support for H4 predicting an indirect effect of flexibility on loyalty (standardized estimate = .039,  $p = .458$ ). Similarly, the findings indicated support for H14, H15, and H16 predicting indirect effects of solidarity (standardized estimate = .025,  $p < .01$ ), product quality (standardized estimate = .007,  $p < .01$ ), and service quality (standardized estimate = .036,  $p < .05$ ) on sales, but once again the indirect effects of flexibility (H13) were non-significant (standardized estimate = .004,  $p = .384$ ). Finally, though

**Table 3: Results for Indirect Effects – Theoretically Predicted Model**

<u>Hypothesis</u>	<u>Indirect Effect</u>	<u>Mediator(s)</u>	<u>Std. Path Estimate</u>	<u>p-value</u>
H4	Flexibility → Loyalty	Trust	.039	= .458
H5	Solidarity → Loyalty	Trust	.280	< .01
H9	Product Quality → Loyalty	Satisfaction, Trust	.079	< .01
H10	Service Quality → Loyalty	Satisfaction, Trust	.404	< .01
H13	Flexibility → Sales	Trust, Loyalty	.004	= .384
H14	Solidarity → Sales	Trust, Loyalty	.025	< .01
H15	Product Quality → Sales	Satisfaction, Trust, Loyalty	.007	< .01
H16	Service Quality → Sales	Satisfaction, Trust, Loyalty	.036	< .05

we did not make predictions regarding these effects, we did find evidence of indirect effects of customer satisfaction (standardized estimate = .043,  $p < .05$ ) and customer trust (standardized estimate = .065,  $p < .05$ ) on sales as well.

The findings for the indirect effects in the theoretically predicted model indicate that, with the exception of flexibility, each of our antecedent factors exert a significant influence on critical relational and objective outcomes for firms. More importantly, we observe that the intervening variables of satisfaction, trust, and loyalty are all important explanatory variables that account for the success of inter-firm exchange relationships. Establishing these indirect effects from so-called “mindset” constructs evaluating perceptions of quality and relational norms in relationships highlights the influence that day-to-day interactions between buyers and suppliers has on the long-term relational and financial well-being of the exchange relationship. These findings also validate our decision to include both non-relational and relational antecedents in our model to establish a more complete depiction of the drivers of exchange relationship performance.

### **Moderation Effects**

The most critical question tested in the present research is what effects disruptive events have on inter-firm exchange relationships. To test this predicted effect we created two groups using a binary variable to indicate whether a customer had experienced a disruptive event in the year 2016 (coded 1) or had not experienced a disruption during that time (coded 2). These two groups were then used in a multi-group analysis to test H17 predicting that the presence of disruptive events would moderate the theoretically predicted model. To begin, we tested for metric invariance between the two groups. Partial metric invariance was established by freeing two indicators, one each for the constructs of solidarity and loyalty in the model. Next, we tested for structural invariance. The results indicated that structural model invariance was achieved ( $\Delta \chi^2$  test = 11.28 (8),  $p = .18$ ), meaning that our prediction of full-model moderation (H17) was not supported. In the absence of structural model variance, we followed the procedures outlined by Netemeyer, Bearden, and Sharma (2003) to perform pairwise tests of coefficients to identify if individual structural paths differed between groups. While none of the paths in the model were found to be significantly different between groups at the .05 level of significance, three paths - from service quality to satisfaction, from flexibility to trust, and from satisfaction to loyalty -

were observed to be partially significant, with the estimate of each path determined to differ between groups at p-values ranging from .06 - .07 (see Table 4).

An important contribution we aim to make to the literature with this research is to establish the detrimental effects of disruptive events on inter-firm exchange relationships. The moderation results above do not allow us to fully conclude that disruptive events negatively affect exchange relationships, although we do see some indications that this might be the case. While the finding that structural invariance was observed in the model means that moderation of the full model is not supported, we did find marginal significance to support that three paths in the model were sufficiently different between groups who experienced a disruptive event and those who did not. We are confident that these partially significant results would likely have been significant at the .05 level with a larger sample size, and planned subsequent data collection will allow us to verify this claim. Further, examining the variant paths between groups we can identify that the influence of two antecedent factors on the relationship are particularly prominent in the presence of a disruption. First, it is interesting that the norm of flexibility is a non-significant predictor of customer satisfaction in the absence of a disruption, but becomes significant in the presence of a disruption. Theoretically, this makes sense because the ability of relationships to adapt to changing circumstances is particularly important when disruptive events unfold, as each tends to be unique. Second, we find that service quality evaluations exert a significant influence on customer satisfaction and loyalty when disruptive events are experienced. While this is a novel finding in the B2B domain, it is not a surprising finding given that previous work in the area of service failures has demonstrated a similar influence of service quality evaluations on customer satisfaction, as supported by expectancy theory.

**Table 4: Moderation Effects – Theoretically Predicted Model**

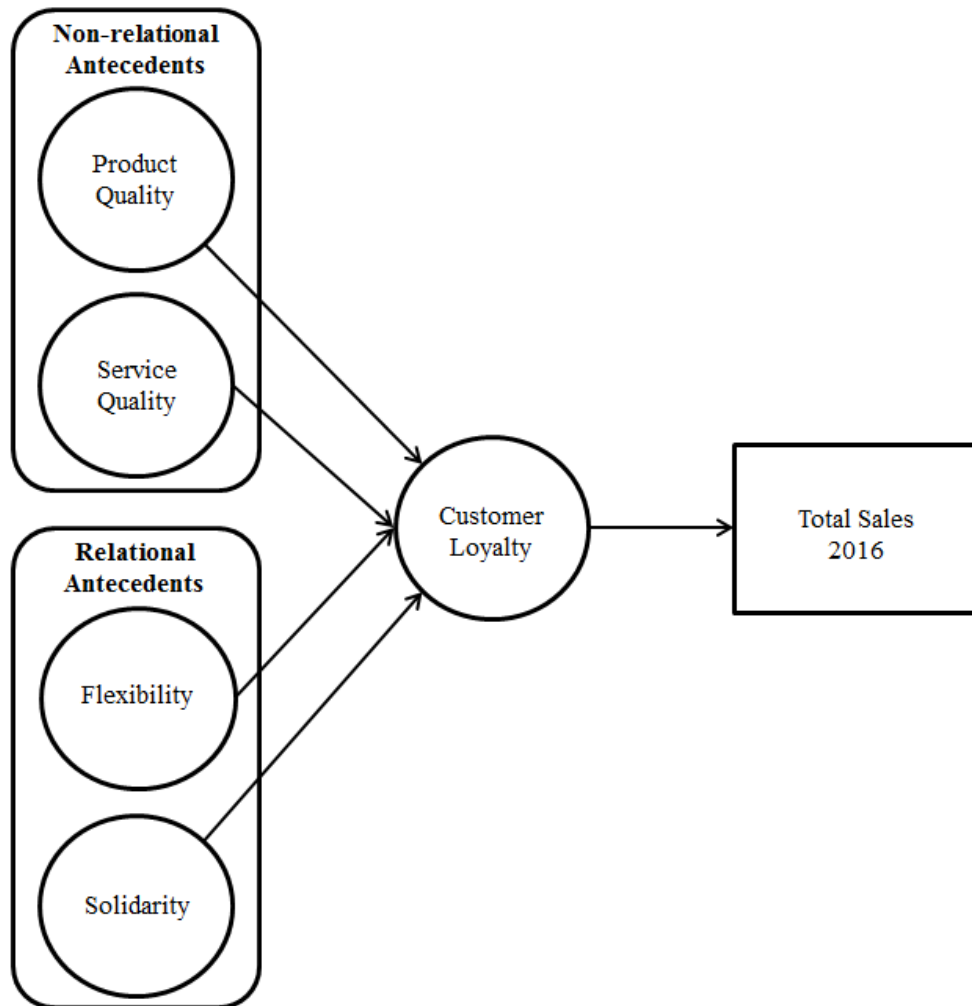
<u>Model/Path</u>	<u>df/<math>\Delta \chi^2</math></u>	Group 1: Disruption Experienced	Group 2: No Disruption Experienced
		<u>Std. Path Estimate</u>	<u>Std. Path Estimate</u>
Structural Model	8/11.27	N/A	N/A
Flexibility → Trust	1/3.36*	.247**	.004
Solidarity → Trust	1/1.77	.204*	.443***
Product Quality → Satisfaction	1/0.00	.137**	.171***
Service Quality → Satisfaction	1/3.43*	.805***	.835***
Satisfaction → Trust	1/0.01	.468***	.519***
Trust → Loyalty	1/2.05	.845***	.626***
Satisfaction → Loyalty	1/3.24*	.021	.207***
Loyalty → Sales	1/0.14	.160*	.082*

\* $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

## **Results for the Alternative Model**

### **Confirmatory Factor Analysis**

As previously indicated, due to the discriminant validity issues observed with the theoretically predicted model, we estimated an alternative model that removed two of the key constructs in question - satisfaction and trust - and retained loyalty as the only latent outcome variable in the model (see Figure 2). We again conducted a confirmatory factor analysis for all of the self-report measures in the alternative model. The results indicated a good overall fit for the



**Figure 2: Conceptual Model – Alternative Model**

model with the comparative fit index (CFI) and root mean square error of approximation (RMSEA) both within the prescribed range for adequate model fit (see Hu and Bentler 1999) ( $\chi^2 = 375.49$  (109),  $p < .001$ ; CFI = .958; RMSEA = .059). All standardized factor loadings were greater than .50 and were statistically significant at  $p < .05$ , and the model demonstrated good construct validity and internal consistency with the composite reliabilities of all factors above .80 and the average variance extracted (AVE) for each above .55 (Hair et al. 1998). This time,

evidence of discriminant validity was demonstrated by establishing that the AVE's for each factor were greater than the squared phi-correlation with any other factor in the model (Fornell and Larcker 1981). The measurement properties for the alternative model are summarized in Appendix F and the discriminant validity analysis is summarized in Table 5.

## Direct Effects

A structural equation model was estimated to assess the hypothesized relationships predicted in Figure 2. This model specified flexibility, solidarity, product quality, and service quality as exogenous variables and loyalty and total sales for the year 2016 as endogenous

**Table 5: Discriminant Validity Assessment – Alternative Model**

	<u>Variable</u>	<u>Items</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1	Flexibility	3	.62	.55	.16	.28	.35
2	Solidarity	3	.74	.60	.15	.25	.41
3	Product Quality	4	.40	.39	.66	.17	.16
4	Service Quality	3	.53	.50	.41	.69	.34
5	Loyalty	4	.59	.64	.40	.59	.55

*Note:* Correlations are below the diagonal, squared correlations are above the diagonal, and AVE estimates are presented on the diagonal

variables, with loyalty serving as the sole mediating construct. The results indicate a good model fit ( $\chi^2 = 386.70$  (125),  $p < .001$ ; CFI = .959; RMSEA = .055), and all of the predicted direct effects in the model were significant (see Table 6). Flexibility (standardized path estimate = .136,  $p < .05$ ), solidarity (standardized path estimate = .345,  $p < .05$ ), product quality (standardized path estimate = .092,  $p < .05$ ), and service quality (standardized path estimate = .302,  $p < .01$ ) were each found to have a significant, positive effect on loyalty, and loyalty was found to have a significant, positive effect on total sales in the year 2016 (standardized path estimate = .099,  $p < .05$ ).

The direct effect results for the alternative model largely mirror the indirect effects of the antecedent factors on loyalty observed in the theoretically predicted model. However, rather than establishing that perceptions of quality and norms in relationships impact loyalty through the intervening constructs of trust and satisfaction, we now demonstrate that the antecedent factors have a direct impact on customer loyalty. The results also replicate the significant, direct effect of loyalty on total sales in the year 2016 found in the theoretically predicted model.

**Table 6: Results for Direct Effects – Alternative Model**

<u>Direct Effect</u>	<u>Standardized Path Estimate</u>	<u>p-value</u>
Flexibility → Loyalty	.136	< .05
Solidarity → Loyalty	.345	< .05
Product Quality → Loyalty	.092	< .05
Service Quality → Loyalty	.302	< .01
Loyalty → Sales	.099	< .05

## Indirect Effects

Following the same procedures outlined for mediation testing of the theoretically predicted model, we tested the indirect effects of each of our antecedent variables (flexibility, solidarity, product quality, and service quality) on total sales in 2016, all through customer loyalty (see Table 7 for results). Consistent with the findings in the theoretically predicted model, the results indicate support for significant indirect effects of solidarity (standardized estimate = .034,  $p < .01$ ), product quality (standardized estimate = .009;  $p = .05$ ), and service quality (standardized estimate = .03,  $p < .01$ ) on sales, but the indirect effect of flexibility on sales through loyalty was non-significant (standardized estimate = .013,  $p = .10$ ).

Taken together with the direct effects above, these results validate our findings in the theoretically predicted model that customer perceptions of solidarity, product quality, and service quality contribute to supplier objective performance, and that loyalty plays an important role in explaining these relationships.

**Table 7: Results for Indirect Effects – Alternative Model**

Indirect Effect	Mediator(s)	Standardized Path Estimate	p-value
Flexibility → Sales	Loyalty	.013	= .10
Solidarity → Sales	Loyalty	.034	< .01
Product Quality → Sales	Loyalty	.009	= .05
Service Quality → Sales	Loyalty	.030	< .01

## Moderation Effects

Multi-group analysis was performed to test for moderation of the alternative model between groups of customers who experienced a disruptive event and those who did not. Partial metric invariance was achieved by once again freeing the same two indicators in the constructs of solidarity and loyalty that were necessary in the theoretically predicted model. The test for structural invariance did support the presence of structural model invariance ( $\Delta \chi^2$  test = 6.23 (5),  $p = .28$ ), indicating that moderation was not present. However, follow-up pairwise tests comparing individual structural paths did find support for a significant difference in the path from service quality to loyalty between groups ( $\Delta \chi^2$  test = 3.88 (1),  $p < .05$ ). All other structural paths were found to be invariant (see Table 8).

As we had observed with the theoretically supported model, moderation could not be supported because the difference between the structural models for customers experiencing a disruption and those who did not experience a disruption was invariant. This is once again likely a function of low power on account of a relatively small number of customers in the group experiencing a disruption. However, moving past the structural invariance and analyzing the paths indicates that we do have a significant difference between groups on the link between service quality and loyalty. This finding mirrors the finding from the moderation testing for the theoretically supported model where the path from service quality to customer satisfaction varied between groups. Collectively, these results demonstrate the importance of service in maintaining strong inter-firm exchange relationships. Service is a critical component that can be the root cause of a disruption, as in the case of service failures, but can also play a critical role in



overcoming disruptive events when service recovery efforts are utilized. We explore the role of service in more detail in the discussion section below.

**Table 8: Moderation Effects – Alternative Model**

		Group 1: Disruption Experienced	Group 2: No Disruption Experienced
<u>Model/Path</u>	<u>df/<math>\Delta\chi^2</math></u>	<u>Std. Path Estimate</u>	<u>Std. Path Estimate</u>
Structural Model	5/6.23	N/A	N/A
Flexibility → Loyalty	1/0.75	.198	.112*
Solidarity → Loyalty	1/0.19	.313**	.353***
Product Quality → Loyalty	1/0.25	.032	.124***
Service Quality → Loyalty	1/3.88**	.218**	.345***
Loyalty → Sales	1/0.12	.172**	.095**

\*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$

## DISCUSSION, IMPLICATIONS, AND RESEARCH DIRECTIONS

Though it is generally understood that disruptive events lead to negative outcomes for exchange relationships, there is still much to be learned about exactly which outcomes of interest are most adversely impacted and what mechanisms help to explain those outcomes. The purpose of the present research was to begin addressing these gaps in our knowledge by identifying how disruptive events impact customer perceptions of the relationship along two different paths, one a relational path evaluating normative behaviors and trust, and the other a non-relational path evaluating quality and satisfaction. The results can be condensed into three important takeaways for the field of marketing. First, we were able to validate the findings of Essay 2 that low-magnitude disruptive events negatively impact exchange relationships.<sup>6</sup> Given that “bumps in the road” are not only inevitable in exchange relationships, but are bound to occur with much greater frequency compared with high-magnitude events, it is important to gain a better understanding of the effect these events have on exchange relationships. Second, our results indicate that both relational and non-relational elements collectively help to explain a customer’s loyalty and purchasing behaviors with a supplier. Suppliers need to be mindful that customer perceptions of the relationship are informed by a host of factors, including the product, service, and normative behaviors, and the presence of a disruptive event only heightens the scrutiny of each of these

<sup>6</sup> Though the findings presented for the theoretically predicted model are non-significant at the .05 level of significance, the fact that numerous paths approach significance leads us to believe that the paths in question would be significant with a larger sample size and added statistical power.

elements. Lastly, we find evidence that service quality is an important element that contributes to a number of important relationship outcomes, including satisfaction, loyalty, and sales. The element of service is often overlooked in B2B research (at least relative to the amount of attention it receives in the B2C literature) and this finding indicates that more attention needs to be given to the role of service in inter-firm exchange relationships, particularly as it relates to dealing with disruptive events. Below, we review these findings in greater detail, including their implications for the discipline, and discuss how we can build upon them in future research.

### **Theoretical Implications**

Our findings hold implications for both relational exchange theory and expectancy theory. One of the notable findings from our research was that the norm of flexibility did not have a significant direct impact on customer trust, nor a significant indirect effect on customer loyalty or sales. This is especially interesting considering that flexibility has been implicated (along with solidarity and information exchange) to be a “higher order” relational norm (Heide and John 1992), suggesting that we would expect it to be a significant driver of exchange relationship success across different contexts. Though seemingly inconsequential for the interpretation of our model, this finding may actually be indicative of a larger theoretical concern in the study of inter-firm exchange relationships. Specifically, it is worth questioning which drivers of relationship performance are most stable across settings and contexts in our field – relational drivers, such as relational norms, or non-relational drivers, such as product and service elements. On the basis of our findings, we can speculate that individual relational norms may not be as reliable of a predictor of relationship outcomes compared to other non-relational drivers, such as product and service evaluations. This suggests that specific relational norms that are instrumental to the success of an exchange relationship in one context, may be wholly unimportant in another context. We see initial evidence of this possibility when we consider that the norm of flexibility has been empirically demonstrated to be an important driver of relationship performance in other studies (see Doney and Cannon 1997; Heide and John 1992; Ivens 2005; Noordewier, John, and Nevin 1990), but was not found to exert a significant influence on trust, loyalty, or sales in our study. It could be that relational norms are always important to the success of an exchange relationship, but that the set of norms that exert the most influence changes dependent upon the setting. That is, a set of norms such as solidarity, flexibility, and information exchange might be critical to the success of the relationship between Firms A and B in Industry C, but the set of norms including mutuality, conflict resolution, and reciprocity are the most critical norms for Firms X and Y in Industry Z. While our finding concerning the non-significance of flexibility in our model could simply be an artifact of the sample, it is nonetheless important to consider whether relational or non-relational antecedents serve as the best predictors of relationship success. One interpretation of the findings in our study might be that evaluations of product and service components of the exchange are more reliable and consistent across contexts compared to the less-tangible relational drivers that the relationship marketing literature has busied itself understanding for the past few decades. This is not to suggest that relational norms are unimportant to the success of exchange relationships on the basis of a single finding, but the idea of identifying the most stable and consistent predictors of exchange relationship success across settings is, at the very least, worth exploring further in future research.

A second implication for theory raised by our findings is the way service is treated in the B2B literature. While service is recognized as a vital component of the total product offering across all exchange contexts, the actual value of service to the success of B2B exchange relationships has yet to be fully established in the literature. Our findings suggest that service may be among the most important drivers of long-term relationship success. We found evidence in both models that service quality evaluations significantly differed between groups of customers experiencing a disruption and those who did not (partial significance was observed in the theoretically predicted model and significance at the .05 level in the alternative model). This suggests that service is an area that is vulnerable to disruptive events and evaluations of service quality plays an important role in impacting critical relationship outcomes. Given that disruptive events are inevitable over the long-term (Hart et al. 1990; Hibbard et al. 1991), the importance of service to maintaining customer loyalty over time is critical. With respect to expectancy theory, it is possible that service might be the component of exchange relationships where it is easiest for expectations to be disconfirmed, relative to other elements. Customers typically have very high expectations of service, often reminding themselves of the mantra “the customer is always right.” These lofty expectations of the service component make it more likely that expectations will be negatively disconfirmed if service providers are unable to sustain a certain level of excellence. In contrast, expectations of the product tend to be more realistic because customers are able to obtain significant amounts of information about the product before making a purchase decision, and the tangible and unchanging nature of the product makes it more likely that expectations of its performance will be confirmed. Similarly, if we apply expectancy theory to assess how customers evaluate the presence or absence of relational norms in exchange, we can see that expectations of relational norms tend to be lower than expectations of service as well. Though norms are intangible and fluid like service experiences, customers have lower expectations of norms because they have a natural wariness of seller’s intentions – “buyer beware.” This wariness makes the establishment of norms and trust in a relationship a slow and gradual process, meaning expectations of relational behavior remain low for a prolonged period of time in most exchange relationships. Future research could attempt to clarify this “ease of disconfirmation” theory suggested by our findings.

### **Managerial Implications**

This research also has important implications for managers. First, our findings, as they did in Dissertation Essay 2, once again demonstrate that low-magnitude disruptions such as product and service failures have a significant influence on exchange relationship outcomes and should not be overlooked by suppliers. The challenging aspect of low-magnitude disruptions is that they may not elicit a complaint or response from the customer, which could lull suppliers into a false sense of security over the matter. However, just because customers do not formally lodge a complaint or seek recompense does not mean that they have moved past the disruption. On the contrary, our results aggregated across Essays 2 and 3 indicate that customer loyalty and purchase behaviors are significantly altered when disruptive events are experienced. In light of this, managers need to be persistent in following up with customers after even small or seemingly inconsequential issues. “Over-servicing” the customer in this manner should help to prevent lost sales in the short term and will also prevent small issues from escalating into bigger problems for the relationship over the long term. Second, with respect to service, our findings indicate that this element of the exchange may be the most likely area to negatively disconfirm a

customer's expectations. Managers must understand that service cannot be overlooked as a critical determinant of relationship success. Imprudently, suppliers often overlook the service element in B2B exchange relationships due to the frequent use of contracts to organize the exchange. Once customers are contractually obligated to purchase from a supplier for a fixed period of time, it becomes easier for suppliers to justify focusing resources and efforts on recruiting new business rather than maintaining standards with old customers. In short, older customers may be taken for granted and service is one of the most visible areas where this is observed. The danger here is that contracts eventually come up for renewal and, based on our findings, customers experiencing disruptions and inadequate service are less likely to remain loyal to their current supplier. To prevent these negative outcomes, managers need to make the effort to maintain a continuously high level of service with customers.

### **Limitations and Future Research Directions**

The present research is not without its limitations. To begin, a shortcoming of this research is that effects of disruptive events were considered in isolation, and we were not able to assess the impact of supplier recovery efforts. We drew heavily on the B2C services literature where service failures are almost always assessed in tandem with recovery efforts to overcome the failure. Unfortunately, in the present research we were unable to collect data related to the recovery efforts of the manufacturer following disruptive events with customers. The initial research plan included plans to work with the manufacturer's customer service team to track both disruption and recovery encounters with customers, but the manufacturer had to postpone those plans due to the implementation of a new customer relationship management system during the time the data collection was scheduled. Future research should consider not only the impact of disruptive events on B2B exchange relationships, but also how firms can attempt to recover from disruptions when they occur. Questions remain as to which recovery efforts are best suited to recovering from disruptive events, whether monetary compensation is an advised recovery option, and whether the choice of appropriate recovery is moderated by the tenure of the relationship or whether a formal contract governs the exchange. Future research could examine each of these issues.

Additionally, another concern with the present research is that data was only collected from one half of the buyer-seller tandem. While gaining the perspective of the buyer in response to disruptive events is certainly important (after all, the "customer is always right"), understanding the customer's perspective of these events can help us to more fully understand how exchange relationships experience disruption. Of particular interest would be conducting future research to assess individual disruptive events from the perspective of both the buyer and the seller. This approach could serve to confirm our suspicions that while small disruptions loom large with customers (confirmed in Essays 2 and 3), suppliers often overlook them thinking that they are so minor that customers won't be affected by them. By collecting data from the supplier in these instances, we could unlock their "mindset" about disruptive events and compare their evaluations of the events against those of the buyer. This would help to form the most complete mental model of how disruptive events affect inter-firm exchange relationships.

Future research should attempt to build on our findings and address some of the theoretical implications raised in our discussion above. We proposed that, based on preliminary evidence from our results, product and service elements may be more reliable predictors of exchange relationship performance across contexts, relative to individual relational norms.

Further research should be conducted to determine how different drivers of relationship performance act across different samples, contexts, and settings. Likewise, as indicated above, future research should attempt to establish the relevance of service in B2B exchanges. There is little doubt that service is important to inter-firm exchanges, but future research should attempt to more accurately establish the value of service to inter-firm exchange relationships and consider a range of possible moderating factors that may increase or decrease the relevance of service to the relationship (i.e. the presence of a contract, relationship tenure, frequency of service interactions, type of product accompanying the service, etc.). Our findings indicate that service is a significant driver of exchange relationship performance, and future research should work to extend upon this important finding.

## REFERENCES

- Achrol, Ravi S. and Gregory T. Gundlach (1999), "Legal and Social Safeguards Against Opportunism in Exchange," *Journal of Retailing*, 75 (1), 107-124.
- Anderson, Eugene W. and Mary W. Sullivan (1993), "The Antecedents and Consequences of Customer Satisfaction for Firms," *Marketing Science*, 12 (2), 125-143.
- Anderson, James C. and David W. Gerbing (1988), "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach," *Psychological Bulletin*, 103 (3), 411-423.
- Antia, Kersi D. and Gary L. Frazier (2001), "The Severity of Contract Enforcement in Interfirm Channel Relationships," *Journal of Marketing*, 65 (4), 67-81.
- Bagozzi, Richard P. and Lynn W. Phillips (1982), "Representing and Testing Organizational Theories: A Holistic Construal," *Administrative Science Quarterly*, 27 (3), 459-489.
- Bello, Daniel C., Cristian Chelariu, and Li Zhang (2003), "The Antecedents and Performance Consequences of Relationalism in Export Distribution Channels," *Journal of Business Research*, 56 (1), 1-16.
- Bitner, Mary Jo (1990), "Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses," *Journal of Marketing*, 52 (2), 69-82.
- Blau, Peter Michael (1964). *Exchange and Power in Social Life*. Transaction Publishers.
- Bolton, Ruth N. and James H. Drew (1991), "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research*, 17 (4), 375-384.
- and Katherine N. Lemon (1999), "A Dynamic Model of Customers' Usage of Services: Usage as an Antecedent and Consequence of Satisfaction," *Journal of Marketing Research*, 36 (2), 171-186.
- Boulding, William, Ajay Kalra, Richard Staelin, and Valerie A. Zeithaml (1993), "A Dynamic Process Model of Service Quality: From Expectations to Behavioral Intentions," *Journal of Marketing Research*, 30 (1), 7-27.
- Brown, James R., Chekitan S. Dev, and Dong-Jin Lee (2000), "Managing Marketing Channel Opportunism: The Efficacy of Alternative Governance Mechanisms," *Journal of Marketing*, 64 (2), 51-65.
- Buchanan, Lauranne, Carolyn J. Simmons, and Barbara A. Bickart (1999), "Brand Equity Dilution: Retailer Display and Context Brand Effects," *Journal of Marketing Research*, 36 (3), 345-355.

- Cannon, Joseph P., Ravi S. Achrol, and Gregory T. Gundlach (2000), "Contracts, Norms, and Plural Form Governance," *Journal of the Academy of Marketing Science*, 28 (2), 180-194.
- Cao, Zhi and Fabrice Lumineau (2015), "Revisiting the Interplay Between Contractual and Relational Governance: A Qualitative and Meta-analytic Investigation," *Journal of Operations Management*, 33, 15-42.
- Caruana, Albert (2000), "Service Loyalty: The Effects of Service Quality and the Mediating Role of Customer Satisfaction," *European Journal of Marketing*, 36 (7), 811-828.
- Chandrashekar, Murali, Kristin Rotte, Stephen S. Tax, and Rajdeep Grewal (2007), "Satisfaction Strength and Customer Loyalty," *Journal of Marketing Research*, 44 (1), 153-163.
- Chaudhuri, Arjun and Morris B. Holbrook (2001), "The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty," *Journal of Marketing*, 65 (2), 81-93.
- Churchill Jr., Gilbert A. and Carol Surprenant (1982), "An Investigation into the Determinants of Customer Satisfaction," *Journal of Marketing Research*, 19 (4), 491-504.
- Cronin Jr., J. Joseph and Steven A. Taylor (1992), "Measuring Service Quality: A Reexamination and Extension," *Journal of Marketing*, 56 (3), 55-68.
- Cropanzano, Russell and Marie S. Mitchell (2005), "Social Exchange Theory: An Interdisciplinary Review," *Journal of Management*, 31 (6), 874-900.
- Doney, Patricia M. and Joseph P. Cannon (1997), "An Examination of the Nature of Trust in Buyer-Seller Relationships," *Journal of Marketing*, 61 (2), 35-51.
- Evanschitzky, Heiner, et al. (2012), "Consequences of Customer Loyalty to the Loyalty Program and to the Company," *Journal of the Academy of Marketing Science*, 40 (5), 625-638.
- Fornell, Claes and David F. Larcker (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 18 (1), 39-50.
- Garbarino, Ellen and Mark S. Johnson (1999), "The Different Roles of Satisfaction, Trust, and Commitment in Customer Relationships," *Journal of Marketing*, 63 (2), 70-87.
- Gronroos, Christian (1984), "A Service Quality Model and Its Marketing Implications," *European Journal of Marketing*, 18 (4), 36-44.

- Gustafsson, Anders, Michael D. Johnson, and Inger Roos (2005), "The Effects of Customer Satisfaction, Relationship Commitment Dimensions, and Triggers on Customer Retention," *Journal of Marketing*, 69 (4), 210-218.
- Hair, Joseph F., Rolph E. Anderson, Barry J. Babin, and William C. Black (2010). *Multivariate Data Analysis: A Global Perspective*. Vol. 7. Upper Saddle River, NJ: Pearson.
- Harmeling, Colleen M., Robert W. Palmatier, Mark B. Houston, Mark J. Arnold, and Stephen A. Samaha (2015), "Transformational Relationship Events," *Journal of Marketing*, 79 (5), 39-62.
- Hart, Christopher W., James. L. Heskett, and W. Earl Sasser, Jr. (1990), "The Profitable Art of Service Recovery," *Harvard Business Review*, 68 (July-August), 148-156.
- Heide, Jan B. and George John (1992), "Do Norms Matter in Marketing Relationships?" *Journal of Marketing*, 56 (2), 32-44.
- Hibbard, Jonathan D., Nirmalya Kumar, and Louis W. Stern (2001), "Examining the Impact of Destructive Acts in Marketing Channel Relationships," *Journal of Marketing Research*, 38 (1), 45-61.
- Homburg, Christian, Annette Giering, and Ajay Menon (2003), "Relationship Characteristics as Moderators of the Satisfaction-Loyalty Link: Findings in a Business-to-Business Context," *Journal of Business to Business Marketing*, 10 (3), 35-62.
- Hu, Li-tze and Peter M. Bentler (1999), "Cutoff Criteria For Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives," *Structural Equation Modeling: A Multidisciplinary Journal*, 6 (1), 1-55.
- Ivens, Bjoern Sven (2005), "Flexibility in Industrial Service Relationships: The Construct, Antecedents, and Performance Outcomes," *Industrial Marketing Management*, 34 (6), 566-576.
- Johnson, Michael D. and Claes Fornell (1991), "A Framework for Comparing Customer Satisfaction Across Individuals and Product Categories," *Journal of Economic Psychology*, 12 (2), 267-286.
- Lehtinen, Uolevi and Jarmo R. Lehtinen (1982), "Service Quality: A Study of Quality Dimensions," Service Management Institute.
- Liu, Yi, Yuan Li, Lei Tao, and Ying Wang (2008), "Relationship Stability, Trust, and Relational Risk in Marketing Channels: Evidence from China," *Industrial Marketing Management*, 37 (4), 432-446.
- Macneil, Ian. R. (1980). *The New Social Contract: An Inquiry into Modern Contractual Relations*. Yale University Press.



- McCollough, Michael A., Leonard L. Berry, and Manjit S. Yadav (2000), "An Empirical Investigation of Customer Satisfaction after Service Failure and Recovery," *Journal of Service Research*, 3 (2), 121-137.
- Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship Marketing," *Journal of Marketing*, 58 (3), 20-38.
- Netemeyer, Richard G., William O. Bearden, and Subhash Sharma (2003). *Scaling Procedures: Issues and Applications*. CA: Sage Publications, 2003.
- Noordewier, Thomas G., George John, and John R. Nevin (1990), "Performance Outcomes of Purchasing Arrangements in Industrial Buyer-vendor Relationships," *Journal of Marketing*, 54 (4), 90-93.
- Oliver, Richard L. (1980), "A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions," *Journal of Marketing Research*, 17 (4), 460-469.
- (1993), "Cognitive, Affective, and Attribute Bases of the Satisfaction Response," *Journal of Consumer Research*, 20 (3), 418-430.
- (1996), "Varieties of Value in the Consumption Satisfaction Response," *NA-Advances in Consumer Research*, 23.
- (1999), "Whence Consumer Loyalty?" *Journal of Marketing*, 63 (1), 33-44.
- Olshavsky, Richard W. and John A. Miller (1972), "Consumer Expectations, Product Performance, and Perceived Product Quality," *Journal of Marketing Research*, 9 (1), 19-21.
- Palmatier, Robert W. *Relationship Marketing*. Cambridge, MA: Marketing Science Institute, 2008.
- , Rajiv P. Dant, and Dhruv Grewal (2007), "A Comparative Longitudinal Analysis of Theoretical Perspectives of Interorganizational Relationship Performance," *Journal of Marketing*, 71 (4), 172-194.
- , -----, -----, and Kenneth R. Evans (2006), "Factors Influencing the Effectiveness of Relationship Marketing: A Meta-analysis," *Journal of Marketing*, 70 (4), 136-153.
- , Lisa K. Sheer, and Jan-Benedict EM Steenkamp (2007), "Customer Loyalty to Whom? Managing the Benefits and Risks of Salesperson-owned Loyalty," *Journal of Marketing Research*, 44 (2), 185-199.

- Parasuraman, Ananthanarayanan and Dhruv Grewal (2007), "The Impact of Technology on the Quality-Value-Loyalty Chain: A Research Agenda," *Journal of the Academy of Marketing Science*, 28 (1), 168-174.
- , Valerie A. Zeithaml, and Leonard L. Berry (1988), "SERVQUAL: A Multiple-item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, 64 (1), 12-40.
- , -----, and ----- (1994), "Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research," *Journal of Marketing*, 58 (1), 111-124.
- Rao, Akshay R. and Kent B. Monroe (1989), "The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review," *Journal of Marketing Research*, 26 (3), 351-357.
- Rosenberg, Larry J. and John A. Czepiel (1984), "A Marketing Approach for Customer Retention," *Journal of Consumer Marketing*, 1 (2), 45-51.
- Samaha, Stephen A., Robert W. Palmatier, and Rajiv P. Dant (2011), "Poisoning Relationships: Perceived Unfairness in Channels of Distribution," *Journal of Marketing*, 75 (3), 99-117.
- Singh, Jagdip and Deepak Sirdeshmukh (2000), "Agency and Trust Mechanisms in Consumer Satisfaction and Loyalty Judgments," *Journal of the Academy of Marketing Science*, 28 (1), 150-167.
- Sirdeshmukh, Deepak, Jagdip Singh, and Barry Sabol (2002), "Consumer Trust, Value, and Loyalty in Relational Exchanges," *Journal of Marketing*, 66 (1), 15-37.
- van Doorn, Jenny and Peter C. Verhoef (2008), "Critical Incidents and the Impact of Satisfaction on Customer Share," *Journal of Marketing*, 72 (4), 123-142.
- Vargo, Stephen L. and Robert F. Lusch (2004), "Evolving to a New Dominant Logic for Marketing," *Journal of Marketing*, 68 (1), 1-17.
- and ----- (2006), "Service-dominant Logic: Reactions, Reflections, and Refinements," *Marketing Theory*, 6 (3), 281-288.
- Verhoef, Peter C. (2003), "Understanding the Effect of Customer Relationship Management Efforts on Customer Retention and Customer Share Development," *Journal of Marketing*, 67 (4), 30-45.
- Voorhees, Clay M., Michael K. Brady, Roger Calantone, and Edward Ramierez (2016), "Discriminant Validity Testing in Marketing: An Analysis, Causes for Concern, and Proposed Remedies," *Journal of the Academy of Marketing Science*, 44 (1), 119-134.

Yang, Zhillin and Robin T. Peterson (2004), "Customer Perceived Value, Satisfaction, and Loyalty: The Role of Switching Costs," *Psychology & Marketing*, 21 (10), 799-822.

Zeithaml, Valerie A., Leonard L. Berry, and Arantharathan Parasuraman (1993), "The Nature and Determinants of Customer Expectations of Service," *Journal of the Academy of Marketing Science*, 21 (1), 1-12.

Zhao, Xinshu, John G. Lynch, and Qimei Chen (2010), "Reconsidering Baron and Kenny: Myths and Truths About Mediation Analysis," *Journal of Consumer Research*, 37 (2), 197-206.

**APPENDIX A**  
**LIST OF MEASURES INCLUDED IN ESSAY 1 SURVEY**

<u>Factor and Items</u>	<u>Response Form/Scale</u>
Critical Incident (Bitner et al. 1990, 1994; Kelley et al. 1993)	Open-Response
Please describe a memorable relationship disruption incident from your past in which the company that caused the disruption did a good (poor) job of recovering.	
Why do you believe the relationship disruption occurred?	
How did you and your company feel after the incident?	
Buyer or Seller	Categorical (Buyer, Seller, Not Sure)
In the incident that you described on the previous page, were you on the buying side or selling side of the transaction?	
When Incident Occurred	Open-Response
Approximately how long had your company been doing business with the other company when the incident occurred?	
Approximately when did the relationship disruption occur?	
Disruption Severity (Kelley et al. 1993)	Metric (1-5 scale; Not at all Severe – Very Severe)
How severe did you think the relationship disruption was at the time it occurred?	
Disruption Type	Categorical (Service Failure, Opportunistic Behavior, Created Conflict, Contract Violation, Relationship Violation, Unfairness, Other)
Classify the disruption that occurred by selecting all of the categories that describe the incident	
Norm Violations	Metric (0-4 scale of impact on relationship; 0 = did not happen, 1 = none, 2 = slight, 3 = moderate, 4= high)
The other company did not place a high value on our business relationship...(solidarity)	
The other company was inflexible and unwilling to make alterations to practices and policies...(flexibility)	
The other company attempted to extract an uneven amount of value from the exchange... (mutuality)	

**(Appendix A – Continued)**

<u>Factor and Items</u>	<u>Response Form/Scale</u>
The other company was unwilling to share in important responsibilities... (role integrity)	
The other company was unwilling to provide us with useful and timely information... (information exchange)	
The other company was unwilling to compromise or seek balanced outcomes... (conflict resolution)	
The other company believed that the transaction was more important than the overall relationship... (relational focus)	
The other company did not reciprocate... (reciprocity)	
The other company chose not to exercise power or authority (restraint of power)	
Value Impacted	Metric (1-5 Likert scale)
The disruption was significant because of the financial and/or economic impact that it caused	
The disruption was significant because of the interpersonal and/or relational impact that it caused	
Awareness of Disruption (Kelley et al. 1993)	Open-Response
How did the other company become aware of the disruption?	
Recovery Attempt (Kelley et al. 1993)	Open-Response
What did the other company do to correct (or try to correct) the disruption?	
Recovery Success/Failure (Kelley et al. 1993)	Open-Response
What made the recovery particularly good (poor) or effective (ineffective)?	
Recovery Quality (Kelley et al. 1993)	Metric (1-5 scale; Very Poor – Excellent)
How well did the other company do in its attempt to correct the disruption?	
Norms Present in Recovery	Metric (0-4 scale of impact on relationship; 0 = did not happen, 1 = none, 2 = slight, 3 = moderate, 4= high)
The other company showed us they highly valued our business relationship...(solidarity)	
The other company was inflexible and made alterations...(flexibility)	
The other company made sure that our company got an equal/fair amount of value...(mutuality)	

**(Appendix A – Continued)**

<u>Factor and Items</u>	<u>Response Form/Scale</u>
The other company took on important responsibilities (role integrity)	
The other company provided us with useful and timely information (information exchange)	
The other company compromised to make sure there were balanced outcomes (conflict resolution)	
The other company showed our company that the overall relationship between our firms was more important than a single transaction (relational focus)	
The other company reciprocated beyond what was really needed or expected (reciprocity)	
The other company did not exercise power/authority in the relationship (power restraint)	
Recovery Improvement	Open-Response
Is there anything that the other company could have done differently to further improve this recovery?	
Co-Creation of Recovery	Open-Response
How did you (or your company) assist in the recovery? If you did nothing, could you have done anything to help?	
Attribution of Recovery	Metric (1-5 scale; My company – The other company)
Who was responsible for making the recovery happen?	
Relationship Stage at time of Disruption (Dwyer et al. 1987)	Categorical (Exploration, Buildup, Maturity, Decline, Deterioration)
Which of the following best describes your company's relationship with the other company at the time of disruption?	
Relationship Stage currently (Dwyer et al. 1987)	Categorical (Exploration, Buildup, Maturity, Decline, Deterioration)
Which of the following best describes your company's relationship with the other company today/currently?	
Relationship Type	Categorical (Transactional, Extensive Commercial, Expressive, Deep Business and Personal)
How would you classify your relationship with the other company?	

**(Appendix A – Continued)**

<u>Factor and Items</u>	<u>Response Form/Scale</u>
Exchange Partner Knowledge	Metric (0-5 scale; 0 = N/A, Very Low Knowledge – Very High Knowledge)
How knowledgeable are you of the other company's manufacturing and production operations?	
How knowledgeable are you of the other company's supply chain?	
How knowledgeable are you of the other company's procedures for failure and recovery?	
How knowledgeable are you of the other company's chain of authority to resolve problems?	
How knowledgeable are you of the other company's autonomy of department to resolve problems?	
How knowledgeable are you of the other company's range of remedies to resolve problems?	
Experience with Other Company	Metric (1-5 scale; Very Negative – Very Positive)
How would you rate your experiences with the other company prior to the disruption?	
How would you rate your experiences with the other company since the disruption?	

**APPENDIX B**  
**DESCRIPTIONS PROVIDED OF DISRUPTION TYPES IN ESSAY 1 SURVEY**

<u>Disruption Type</u>	<u>Description</u>
Service Failure	The services provided by the other company fell below our expectations/standards
Opportunistic Behavior	The other company took actions that clearly benefited their organization to the detriment of my company
Created Conflict	The actions of the other company made it harder for my company to achieve its goals
Contract Violation	The other company violated a contractual obligation
Relationship Violation	The other company went “outside the bounds” of what we would expect given our relationship with them
Unfairness	What the other company <i>got relative to what it gave</i> tilted too far in the other company’s favor



**APPENDIX C**  
**DEFINITIONS OF NORMS INCLUDED IN ESSAY 1 SURVEY**

<u>Norm</u>	<u>Definition</u>
Solidarity	Exchange partners demonstrate that the business relationship is highly valued and approach the relationship from a cooperative, rather than a competitive, stance.
Flexibility	Exchange partners are flexible and willing to make alterations to the standing practices and policies normally followed in the relationship.
Mutuality	Exchange partners each receive/extract an equal/fair amount of value from the transactions between them.
Role Integrity	Exchange partners are willing to take on important responsibilities within the relationship to help maintain a healthy exchange relationship.
Information Exchange	Exchange partners provide one another with useful and timely information that helps to facilitate the exchange relationship.
Conflict Resolution/Harmonization of Conflict	Exchange partners are willing to make compromises when disputes arise to make sure that balanced outcomes are achieved in the exchange relationship.
Relational Focus	Exchange partners show one another that the overall relationship between the firms is more important than any single transaction.
Reciprocity	Exchange partners are willing to reciprocate value received with something of value returned to the other party.
Restraint of Power	Exchange partners do not exercise power or authority in the relationship, even when they have the option to do so (based on contractual authority).

**APPENDIX D**  
**VARIABLE NAMES AND OPERATIONAL DEFINITIONS IN ESSAY 2**

<u>Variable Name</u>	<u>Variable Type</u>	<u>Hypothesis</u>	<u>Operational Definition</u>
Change_Sales_3mo	DV	H1-H4	Difference in sales 3 mo. before present time period and 3 mo. after present time period
Change_Sales_6mo	DV	H1-H4	Difference in sales 6 mo. before present time period and 6 mo. after present time period
Change_Sales_9mo	DV	H1-H4	Difference in sales 9 mo. before present time period and 9 mo. after present time period
Change_Sales_12mo	DV	H1-H4	Difference in sales 12 mo. before present time period and 12 mo. after present time period
Disruption_Binary	IV	H1, H2a, H2b	Incidence (coded “1”) or absence (coded “0”) of disruption in the present time period
Total_Disruptions_Prior_6mo	IV	H2a, H2b	Total number of disruptions occurring in the 6 mo. before the present time period
Total_Disruptions_Prior_12mo	IV	H2a, H2b	Total number of disruptions occurring in the 12 mo. before the present time period
Prior_Disruptions_3mo	IV	H3	Number of disruptions occurring in the time period 1-3 mo. prior to the current time period
Prior_Disruptions_6mo	IV	H3	Number of disruptions occurring in the time period 4-6 mo. prior to the current time period
Prior_Disruptions_9mo	IV	H3	Number of disruptions occurring in the time period 7-9 months prior to the current time period
Prior_Disruptions_12mo	IV	H3	Number of disruptions occurring in the time period 10-12 mo. prior to the current time period
Customer_Tenure	Moderator	H4	Number of months that a customer has been an active customer of the manufacturer

**APPENDIX E**  
**MEASUREMENT PROPERTIES FOR THE THEORETICALLY PREDICTED MODEL**  
**IN ESSAY 3**

<u>Factor and Items</u>	Average Variance Extracted (AVE), Composite Reliability (CR), and Item Loadings
Flexibility (Adapted from Heide and John 1992; anchored by inaccurate description : accurate description)	AVE = .62; CR = .83
Flexibility in response to request for changes is a characteristic of this relationship	.85
The parties expect to be able to make adjustments in the ongoing relationship to cope with changing circumstances	.84
When some unexpected situation arises, the parties would rather work out a new deal than hold each other to the original terms	.66
Solidarity (Adapted from Heide and John 1992; anchored by inaccurate description : accurate description)	AVE = .60; CR = .81
Problems that arise in the course of this relationship are treated by the parties as joint rather than individual responsibilities	.82
The parties are committed to improvements that may benefit the relationship as a whole, and not only the individual parties	.88
The parties in this relationship do not mind owing each other favors	.59
Product Quality (Adapted from Buchanan et al. 1999)	AVE = .66; CR = .89
Poor quality : Good quality	.84
Inferior products : Superior products	.73
Ordinary merchandise : Exceptional merchandise	.87
Won't last a long time : Will last a long time	.80
Service Quality (Adapted from Parasuraman et al. 1988)	AVE = .69; CR = .87
Poor service : Excellent service	.80
Unreliable service : Reliable service	.83
Incompetent service employees : Competent service Employees	.85
Satisfaction (Adapted from Gregoire and Fisher 2008)	AVE = .61; CR = .86
Very undependable : Very dependable	.82
Very incompetent : Very competent	.82
Of low integrity : Of high integrity	.73
Very unresponsive to customers : Very responsive to Customers	.77

**(Appendix E Continued)**

<u>Factor and Items</u>	Average Variance Extracted (AVE), Composite Reliability (CR), and Item Loadings
Trust (Adapted from Morgan and Hunt, 1994)	AVE = .76; CR = .93
[Supplier] can be trusted at all times	.89
[Supplier] can be counted on to do what is right	.87
[Supplier] has high integrity	.87
[Supplier] keeps promises it makes to our company	.86
Loyalty (Adapted from Palmatier et al. 2007; anchored by disagree : agree)	AVE = .55; CR = .83
Our company intends to purchase products from [supplier] again	.69
Our company intends to remain loyal to [supplier] in the future	.85
Our company will consider [supplier] as our first choice for our next purchase	.72
Our company intends to do more business with [supplier] in the next few years than we do right now	.69

**APPENDIX F**  
**MEASUREMENT PROPERTIES FOR THE ALTERNATIVE MODEL IN ESSAY 3**

<u>Factor and Items</u>	Average Variance Extracted (AVE), Composite Reliability (CR), and Item Loadings
Flexibility (Adapted from Heide and John 1992; anchored by inaccurate description : accurate description)	AVE = .62; CR = .83
Flexibility in response to request for changes is a characteristic of this relationship	.85
The parties expect to be able to make adjustments in the ongoing relationship to cope with changing circumstances	.84
When some unexpected situation arises, the parties would rather work out a new deal than hold each other to the original terms	.66
Solidarity (Adapted from Heide and John 1992; anchored by inaccurate description : accurate description)	AVE = .60; CR = .81
Problems that arise in the course of this relationship are treated by the parties as joint rather than individual responsibilities	.82
The parties are committed to improvements that may benefit the relationship as a whole, and not only the individual parties	.88
The parties in this relationship do not mind owing each other favors	.59
Product Quality (Adapted from Buchannan et al. 1999)	AVE = .66; CR = .88
Poor quality : Good quality	.84
Inferior products : Superior products	.73
Ordinary merchandise : Exceptional merchandise	.87
Won't last a long time : Will last a long time	.80
Service Quality (Adapted from Parasuraman et al. 1988)	AVE = .69; CR = .87
Poor service : Excellent service	.80
Unreliable service : Reliable service	.83
Incompetent service employees : Competent service Employees	.85
Loyalty (Adapted from Palmatier et al. 2007; anchored by disagree : agree)	AVE = .55; CR = .83
Our company will purchase products from [supplier] again	.69
Our company intends to remain loyal to [supplier] in the future	.85
Our company will consider [supplier] as our first choice for our next purchase	.72
Our company intends to do more business with [supplier] in the next few years than we do right now	.69

## VITA

Matthew M. Lastner, a native of Jefferson, Maryland, earned his B.S. in Marketing and Management from James Madison University in 2005 and his M.B.A. from the University of Maryland in 2012. Matthew anticipates graduating from Louisiana State University in May of 2017 with his Ph.D. in Business Administration and is scheduled to begin working as an Assistant Professor of Marketing at Illinois State University in the fall of 2017. Matthew's research has been published in the *Journal of Business Research* and the *Journal for the Advancement of Marketing Education*. Additionally, his research has been presented at the annual conferences for the American Marketing Association, the Academy of Marketing Science, and the Association for Consumer Research, as well as at the National Conference for Sales Management and the Southeast Marketing Symposium. Matthew's research has been recognized on several occasions, including winning best paper awards at the Academy of Marketing Science (2014), the Society for Marketing Advances (2014), and the Academy of Management Meeting (2015). In the spring of 2016, Matthew was presented with the Outstanding Graduate Teaching Assistant Award for 2015-2016 at the LSU E.J. Ourso College of Business. Prior to academia, Matthew spent four years working in sales for Ryan Homes (3 years) and Aramark (1 year), followed by three years at Healthcare Services Group where he served as a District Manager of Operations.