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Signed:

Philip J. Brown

August 30, 2020



An Exploratory Quantitative Study of Intangible Exchange Determinants of
Business-to-Business Relationship Value

A DISSERTATION

Submitted to the Faculty of the
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In partial fulfillment of the requirements for the degree
Doctor of Business Administration
by
Philip J. Brown

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ABBREVIATIONS AND ACRONYMS

B2B	Business-to-Business
B2B-RP	Business-to-Business Relationship Performance
B2C	Business-to-Consumer
BPM	Business Process Management
BRV	Business Relationship Value
BZ	Below Zero (Customers)
CEO	Chief Executive Officer
CMB	Common Method Bias
CMV	Common Method Variance
COVID-19	Coronavirus Disease 2019
CRM	Customer Relationship Management
CV	Control Variable
DBA	Doctorate in Business Administration
DV	Dependent Variable
DW	Durbin-Watson
ECIA	Electronic Component Manufacturers Association
EEOC	Equal Opportunity Commission
ET	Exchange Theory
GDP	Gross Domestic Product
GEO	Geographic Proximity
HMR	Hierarchical Multiple Regression
ICRM	International Colloquium in Relationship Management

IMF	International Monetary Fund
IMP	Industrial Marketing and Purchasing Group
INC	Incorporated Company or Organization
IP	Intellectual Property
ISBM	Institute for the Study of Business Markets
IV	Independent Variable
IT	Information Technology
JIT	Just-In-Time
KM	Knowledge Management
KS	Kolmogorov-Smirnov
LTV	Lifetime Value
MBA	Master's in Business Administration
MCO	Mutual Cooperation and Interaction
MIT	Massachusetts Institute of Technology
MGC	Most Growable Customers
MVC	Most Valuable Customers
NAICS	North American Industry Classification System
NET	Network Exchange Theory
OEM	Original Equipment Manufacturer
RBV	Resource-Based View
RCO	Relationship Commitment
ROE	Return on Equity
ROI	Return on Investment

RM	Relationship Management
ROA	Return on Assets
ROR	Return on Resource
RPP	Relationship Performance and Practice
RQ	Research Question
RSN	Regional Strategic Network
RV	Relationship Value
SAT	Relationship Satisfaction
SCM	Supply Chain Management
SET	Social Exchange Theory
SHRM	Society of Human Resource Management
SHRM-SCP	Society of Human Resource Management - Senior Certified Professional
SME	Small to Medium Enterprise
SRO	Supplier Relationship Orientation
SUSB	Statistics of U.S. Businesses
TRT	Relationship Trust
US	United States
USA	United States of America
USP	Unique Selling Point
VIF	Variance Inflation Factor
VGR	Values and Ethics Congruence

DEDICATION

I dedicate my dissertation to my family, my wife, Ann, and our children, Eleanor, Matthew, and Charlotte, for their support and patience on this doctoral journey.

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An Exploratory Quantitative Study of Intangible Exchange Determinants of
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Philip J. Brown

Committee Chair: Jerrold Van Winter, Ph.D.

ABSTRACT

My research study, in the field of business-to-business (B2B) quantitative relationship exchange value, is constructed on the foundation of business purpose (Drucker, 1954) and exchange theory (Homans, 1958). This North American research expanded prior research (Lages, Lancastre, & Lages, 2005), with additional unique contributions, to the process of quantitative business relationship-value determinants. The purpose of my study was to examine and contribute to the knowledge of business-to-business (B2B) relationships through a quantitative value-exchange of goods or services, material or non-material. The non-material exchange and customer perceived value are crucial in the evaluation of how policies and practice, cooperation, trust, commitment, geographic proximity, and values congruence, affect customer-perceived relationship quantified-value satisfaction. My research investigated demographic relationship control variables, identifying the significance of participant age.

My research study reported relationship trust (TRT) as significant and the leading determinant of customer satisfaction (SAT), followed by policies and practice (RPP). Additional analysis on relationship commitment (RCO) identified a suppressor variable influence found when an independent variable, not correlated with the dependent variable, customer satisfaction, is correlated with the other independent variables. Relationship commitment as a suppressor variable is a crucial B2B relationship-value finding of this research.

CHAPTER 1: INTRODUCTION

Introduction

Business organizations are designed and structured to deliver product or service value to the customer, at an economical cost to the supplier (Magretta, 2002). Value exchange and an economic return are fundamental objective pillars of an organization, applicable in non-profit and for-profit environments.

A business transaction is a transfer, through a sale or exchange of goods or services, to another business entity or third-party (Jewells & Timbrell, 2001). Business-to-customer supply transactions are categorized as business-to-consumer (B2C), involving a private customer and business-to-business (B2B), involving structured entities. Organizations can operate in B2C and B2B market environments.

My research in the field of B2B quantitative relationship exchange value is structured on the construct of business purpose. The single valid definition of business purpose is to create a customer. The customer is the foundation of a business and keeps it in existence; the customer alone gives employment. It is to supply the customer that society entrusts wealth-producing resources to the business enterprise (Drucker, 1954, p. 29). The genesis of this dissertation research lies in business strategy, customer value centrality, and the quantitative determinant exchange factors of business supplier-customer relationships.

Business wealth-producing (Drucker, 1954) assets used in supplier-customer transactions, services, and products are measured within an organizational financial structure. Business asset valuations are subcategorized into fixed or current assets. Fixed assets, typically buildings and machinery, have been traditionally considered as tangible physical items that can be readily

identified. Fixed assets, including land, buildings, and machinery, cannot be readily transferred to cash. Current assets, including inventory and accounts receivable, transfer directly to cash.

During the latter part of the 20th century, businesses progressively recognized, identified, measured, and strategically invested in intangible assets, also referred to as the “knowledge economy” (Haskel & Westlake, 2018). Intangible assets typically have intellectual, non-physical value, and include goodwill, brand, research and development, and business practice and process. Driven by accelerated globalization, information technology (IT) access, and communication developments, the rapid evolution from the traditional tangible asset-valuation mindset, to include intangible assets, presents a challenge to business leaders.

Business leaders have increasingly recognized the investment cost and the intellectual value of intangible assets. They see the importance of, and the opportunity presented by the scalability of intangible business asset value, including customer-relationship value. Bill Gates (2018), a co-founder of the Microsoft Corporation, stated that “products you can’t touch have a very different set of dynamics in terms of competition and risk and how you value the companies.”

Organizational leaders in the B2C and B2B sectors recognize the crucial necessity of commercial trade with vendors and customers and the quantitative value of relationship management. Business relationships, a heritage from the past, are an asset and can be optimized (Ford et al., 1998) to improve an organization. Relationship experience between supplier and customer is a crucial intangible organizational performance differentiator (Wallace, 2017). Effective management of the supplier-customer process requires the supervision of all connections or touchpoints in the supply chain (Janvier-James, 2012). The goal is to cultivate, protect, and use intangible assets, including knowledge that is difficult to imitate (Nonaka &

Nishiguchi, 2001). The assessment and correlation of relationship value to business strategy are key performance drivers in the development, and in some cases, the survival of entities in the B2B environment.

My research is based on the theoretical principles of exchange theory and value rewards based on interactions (Homans, 1958), the interlinked components of business strategy, business process, financial controls, B2B relationships, relationship exchange, and measurement of customer satisfaction, the quantitative relationship-value dependent variable, and the multiple defined independent variables, from the perspective of the customer.

Economic Influence

Economic conditions and change are crucial factors in market environments served by business entities. The “new economy” of continuous change and expanded global competition increase the aggregate value of customer relationship satisfaction (Bricci & Antunes, 2016). The “relationship economy” (Bickham, 2017), based on the connected exchange between suppliers and customers, is a business growth driver, directly and indirectly shaping economics.

Business organizations are affected by degrees of economic policy and actions at the global, national, and regional levels. Business organizations influence macro-economic policy through practices and process development. For their part, economic policies have an impact on material and non-material cost, innovation, investment, personnel, and market access or barriers.

The available economic market and future projections affected by business organizations are consequential in terms of opportunity and risk. Awareness of national and international politics and events, which create market threat or opportunity, is a crucial responsibility of business leadership.

In the context of this research, it is important to report the macro-economic scale, the number of operational business entities, relative employee dispersion, and global geopolitical trend influence and impact.

At the national level, the economic measure of gross domestic product (GDP) is the value of all goods and services produced. The International Monetary Fund (2020, April 9) reported that global GDP in 2018 amounted to \$85.9 trillion, projected to reach \$88.8 trillion in 2019. The Bureau of Economic Analysis (2020, April 9) stated that with a GDP of \$21.43 trillion in 2019, the United States is the world's largest GDP producing nation.

The United States Census Bureau (2020, April 9) reports every five years on U.S. business organizations by employment size, total payroll, and location. In 2017, of the 6 million business entities registered in the United States, 5.89 million (98.1%) employ fewer than 100 personnel, and 5.34 million (89.0%) employ fewer than 20 personnel, showing the level of employment in small business organizations.

Accelerated market change, driven by factors including globalization, competition, and communication, presents a challenge to business entities. My B2B relationship-value research studies business organizations that operate in the United States and Canada. The United States, as the most significant global business end-user market, is increasingly open to global competition, an economic risk factor for U.S.- and Canada-based business entities alike.

Market change is a critical factor in the longevity of business organizations, which continues to contract. The "33-year average tenure of companies on the S&P 500 in 1964 narrowed to 24 years by 2016 and is forecast to shrink to just 12 years by 2027" (Anthony, Viguerie, Schwartz, & Landeghem, 2018, p. 2).

Geopolitical events have an impact on macroeconomics, presenting opportunities and threats to supplier-customer relationships. Agile business leadership, conducted by monitoring market economic impact through investment in customer-relationship intelligence, is a crucial performance factor and a competitive differentiator.

Relationship Management

Relationship value: dependent variable

B2B customer value is a dependent quantitative and qualitative business-performance variable (Monteiro, 2015; Gil-Saura, Frasquet-Deltoro, & Cervera-Taulet, 2009; Piricz, 2018). Relationship value can be both increased and diminished as a result of either tangible or intangible actions, which are the exchange between the respective individuals or groups (Corsaro, 2008).

The recognition of relationship value has been “reinforced by digital technologies,” enabling business organizations to compete based on “detailed data and analysis of customer needs” (Binder & Hanssens, 2015, p. 4). The evolution of IT supports a broader global market opportunity and threat in the supplier-customer relationship.

Porter (1985) identified “relationship equity” as an important parameter in organizational competitive advantage. A successful business will set out to create differentiation from competitors or to substitute products or services strategically. The strategic attention to the customer perceived or measured value is a business fundamental. The active role and responsibility of organizational leadership in the direct value chain of the business relationship are crucial. The “successful business leader spends time with customers today not only because they have valuable things to say, but also because they demand to be heard by their suppliers’

most senior people” (Colletti & Fiss, 2006, p. 3). The active, visible, and consistent engagement of leadership in customer-relationship value management is crucial.

The communication of evidence-based performance variables, including those that influence or affect customer-relationship value, is crucial to effective, collaborative, and sustained business improvement. B2B relationships have “substantial economic consequences for the company” (Ford et al., 1998, p. 100).

The choice and “complexity of customer journeys” (Lotz, Rabbe, & Roggenhofer, 2018) in the B2B sectors support my research objective. Organizations that can “break out of a siloed mentality have the potential to gain an unprecedented view of the customer” (Lotz et al., 2018).

The customer journey and relationship experience matter, and business leaders need to pay attention to these aspects. Business leaders are intuitively attentive to product or service design intellectual property value and have increasingly recognized intangible intellectual property rights and the economic value of the customer relationship.

Customer value in B2B markets is not limited to the one supplier, one customer relationship. B2B operates in a value-exchange chain interlinked through multiple business entities, internal and external, referred to as “value chains as a value-adding process on a linear path from raw material to end-customer product” (Stannock & Jones, 1996). This extended relationship value is an essential performance requirement.

A supplier-customer relationship can be “summarized along four dimensions – trust, commitment, dependence, and norms, each covering a different facet of a relationship” (Zhang et al., 2018, p. 3). Relationship value experiences different phases in the B2B customer lifetime value timeline, categorized as transactional, transitional, communal, or damaged. The supplier

adapts strategies, dependent on the lifetime phase, strengthens the relationship, and the return on investment (Zhang et al., 2018).

An additional example of a B2B relationship return on investment is evident in the context of the business reference value. The power of a business reference introduction, based on tangible exchange experience, is a crucial prospect customer acquisition factor. Business reference value is the “ability of a client’s reference to provide monetary value to the seller firm by influencing a prospect to adopt and the degree to which it does so” (Kumar, Peterson, & Leone, 2013, p. 69).

Relationship performance assessment

Business leaders are trained to recognize that “what gets measured gets managed” (Drucker, 1954). Deming identified the “Seven Deadly Sins,” including “running a company on visible figures alone (counting the money)” (Deming, 1982, Chapter 3). Business supplier-customer relationship performance measurement is crucial as business leaders look to measurement indicators beyond traditional tangible financial performance results. Business leaders must meet the challenge of recognizing the value and of validating a quantitative relationship performance measurement process.

Evidence-based feedback and dissemination of the recipient customer assessment of value, and the influence on the decision to commercially trade with the supplier, are crucial. Business entities are recognizing that reliance based on an internal perceived qualitative customer relationship history or longevity cannot be a security factor in current or future strategic positioning.

Statement of the Problem

The research problem exists in B2B relationship quantitative-value intangible measurement, cognizance, knowledge gap, and the resultant business organizational risk. There are knowledge and strategic gaps in the comprehension of the measured intangible value of material and nonmaterial relationship exchange in the B2B sectors (Snowden & Garfield, 2016; Haskel & Westlake, 2018; Lotz, Rabbe, & Roggenhofer, 2018).

Research supports the shortening projected lifetime of a business and the need to “focus on changing customer needs” and identifies the change as a “gale-force wind” (Anthony, Viguerie, Schwartz, & Landeghem, 2018). Globalization and communication technology access continue to challenge traditional regional or national geographic proximity norms in B2B exchange. The assessment and alignment of relationship value to business strategy are key performance drivers in the development and survival of established entities in the B2B environment.

Conceptual Framework

A productive B2B relationship delivers a positive quantitative-value exchange, including personal value, financial value, knowledge value, and strategic value.

The design of my research is an adaption to the B2B-RELPERF (Lages, Lancaster, & Lages, 2005) quantitative questionnaire. The B2B-RELPERF assessment (2005) was executed based on a specified individual supplier to a respective specified customer relationship, reflecting B2B key account management (KAM) relationships. KAM is a “commitment to work differently with certain priority customers” (Ryals, 2012) and to structure the differentiated relationship strategically.

The context of my research is modeled for a broader general assessment of B2B supplier-customer relationship experience and perception from the position of the recipient customer. The research incorporates, relative to the B2B-RELPERF (2005) assessment, two additional independent variables, geographic proximity, and values congruence. Participant demographic and business professional control variables were included (see Figure 1).

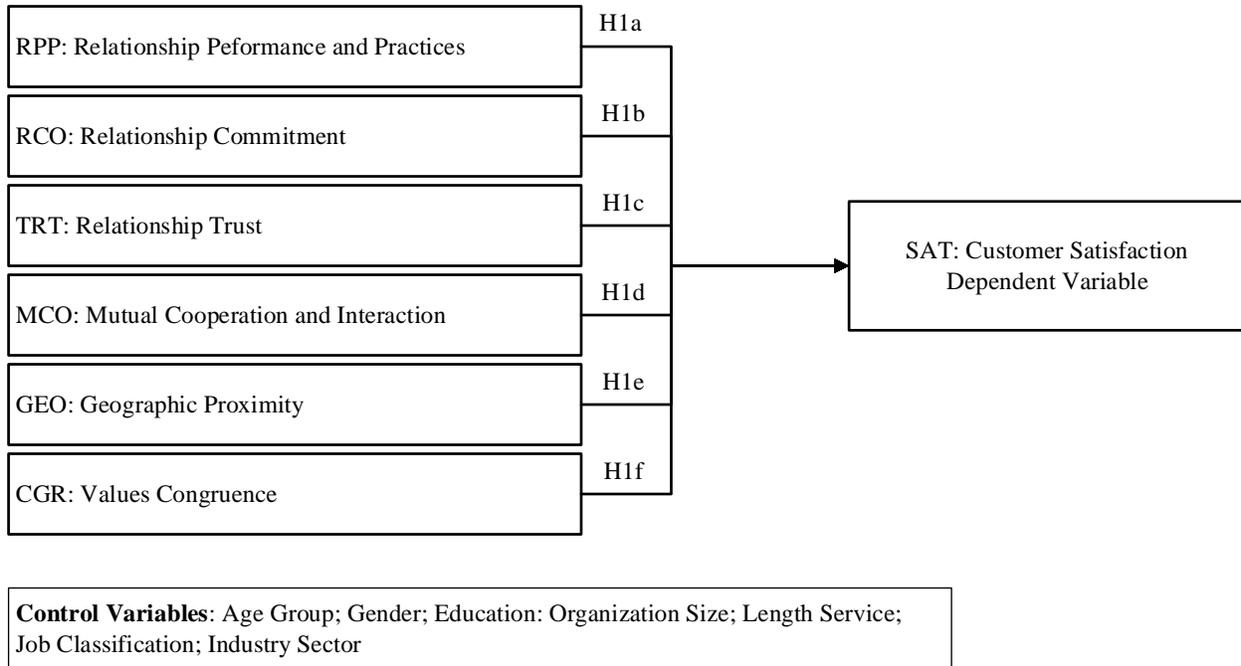


Figure 1 Relationship-Value Framework

My research seeks to assess internal validity concerning the correlation effects of inter-relational independent variables. The objective of the survey is to measure the correlational effect of the independent variables on the dependent variable, customer satisfaction, assessed by the customer. The research, through regression analysis, tests the influence hierarchy of the six independent variables.

Theoretical Framework

Exchange theory, influenced by the seminal works of Homans (1958), is founded on the premise of a material or nonmaterial exchange between two or more parties, resulting in a positive or negative directional assessment, based on the delivered supplier invested cost and the recipient customer perceived value.

Social exchange theory (SET) proposed by Emerson (1976) is highly influential in the quantitative value analysis of social interchange. Emerson defines the “quasi-economic” mode of a social transaction as “involving the exchange of a utility or reward” (Emerson, 1976, p. 336).

The context of a value reward or benefit through an interchange is commonly referenced in a social relationship. In the economic context, to deliver or to receive a reward, there is a cost factor. Emerson found that cost can be in the “form of adverse stimuli” or in the “form of rewards foregone” (Emerson, 1976, p. 349).

SET is founded on the assessment that “relationships evolve over time into trusting, loyal, and mutual commitments” (Cropanzano & Mitchell, 2005, p. 875). In all relationships, “parties must abide by certain rules of resource exchange” (Emerson, 1976: 351). The evolution of relationships and as a result, perceived value, are central to this research.

Network exchange theory (NET), published by Willer (1999) and based on SET, finds that “social relations are conditioned by the structures within which they are embedded.” The structure and process of network exchange make up a norm in a professional B2B environment. NET examines the relationship exchange experience, a positive or negative directional transaction, as a “sanction” (Willer, 1999).

Further, NET identifies the “Three Types of Social Relations” (Willer, 1999) experience assessment based on:

- a. Exchange: positive supplier and customer;
- b. Coercion: positive supplier, negative customer, and
- c. Conflict: negative supplier, negative customer.

Purpose of the Study

The purpose of this study is to contribute to the knowledge of how relationship exchange policies and practice, cooperation, trust, commitment, geographic proximity, and values congruence affect customer-perceived supplier relationship satisfaction. The research is significant in the education of business leaders in an increasingly competitive globalized environment.

The recognition, measurement, and strategic management of quantitative B2B relationship exchange value are increasingly recognized as an invested business equity, a protected and maintained asset.

My research is adapted based on the B2B-RELPERF scale (Lages et al., 2005) completed in Portugal in 2005. The study examines quantitative B2B relationship value in the United States and Canada in 2019, focused on engineering technology sectors.

The following differentials from the survey (Lages et al., 2005) support the purpose and value of my study:

- i. Two additional independent variables
 - a. Geographic proximity
 - b. Values congruence
- ii. Timing: Interval of 14 years, from 2005 to 2019
- iii. Geography Portugal, 2005; North America, 2019
- iv. Participant demographic and industry categorical control data

Overview of Methodology

The B2B-RP scale (Lages et al., 2005) was developed to measure the relationship between trading entities. Precisely, the scale measures relationship policies and practices, commitment, trust, cooperation, and satisfaction.

The B2B-RP scale has been further developed to become the “B2B-Balanced Scorecard” (Lages et al., 2005). The stated objective of the B2B-RP and B2B-Balanced Scorecard scales is to “disclose relationship performance, and act as useful instruments for periodic planning, management, controlling, and improvement of B2B relationships” (Lages et al., 2005).

The questionnaire survey examined my research hypothesis. The representative survey population questionnaire used a categorical, ordinal Likert scale (see Table 1) of 21 questions:

Table 1 *Questionnaire Likert Scale*

1:	Strongly disagree
2:	Disagree
3:	Neither agree nor disagree
4:	Agree
5:	Strongly agree

The survey population was selected from my professional LinkedIn network. Phoenix Mecano, my employer, has invested in LinkedIn Sales Navigator software for professional contact management, integrated within the business Microsoft customer relationship management (CRM) platform. Phoenix Mecano Inc., Frederick, Maryland, founded in 1981, manages a North American customer database of 27,000 professionals, active in B2B sectors. I have served Phoenix Mecano since 1997, and since 2005 as President and Chief Executive Officer (CEO) of Phoenix Mecano Inc. As the business leader, I have established an extended

LinkedIn network of approximately 1,000 selective professional business contacts across the Phoenix Mecano global organization and industry-related North American sectors.

My research questions are designed to test for a positive relationship and hierarchical order between each of the six independent variables and customer satisfaction (SAT). My research survey also examines participant demographics and business industry segmentation factors as categorical control variables.

Research Questions

Research question 1 (RQ1) after controlling for the characteristics of people and business:

- RQ1a Is there a positive relationship between Relationship Performance and Practice (RPP) and Customer Satisfaction (SAT)?
- RQ1b Is there a positive relationship between Relationship Commitment (RCO) and Customer Satisfaction (SAT)?
- RQ1c Is there a positive relationship between Relationship Trust (TRT) and Customer Satisfaction (SAT)?
- RQ1d Is there a positive relationship between Mutual Cooperation and Interaction (MCO) and Customer Satisfaction (SAT)?
- RQ1e Is there a positive relationship between Geographic Proximity (GEO) and Customer Satisfaction (SAT)?
- RQ1f Is there a positive relationship between Values Congruence (VGR) and Customer Satisfaction (SAT)?

Research question 2 (RQ2):

- RQ2 Which of the six B2B relationship value dimensions has the most significant influence on Customer Satisfaction?

Research Hypotheses

My research hypotheses are tested in two steps using an adapted B2B Relationship Performance B2B-RELPERF scale (Lages et al., 2005). Hypotheses 1 (H1) tested the quantitative directional correlation between the B2B supplier-customer dependent variable of SAT and the relationship independent variables of policies and practice, commitment, trust, cooperation, geographic proximity, and values congruence; even after controlling for characteristics of people and business:

- H1a There will be a positive relationship between Relationship Performance and Practice (RPP) and Customer Satisfaction (SAT).
- H1b There will be a positive relationship between Relationship Commitment (RCO) and Customer Satisfaction (SAT).
- H1c There will be a positive relationship between Relationship Trust (TRT) and Customer Satisfaction (SAT).
- H1d There will be a positive relationship between Mutual Cooperation and Interaction (MCO) and Customer Satisfaction (SAT).
- H1e There will be a positive relationship between Geographic Proximity (GEO) and Customer Satisfaction (SAT).
- H1 There will be a positive relationship between Values Congruence (VGR) and Customer Satisfaction (SAT).

- H2 Of the six business-to-business (B2B) relationship value dimensions: Relationship Performance and Practices (RPP) will have the most significant influence on Customer Satisfaction.

In the second step, my research hypotheses 2 (H2) analyzed the hierarchical structure of the predictive influence of the independent variable to the dependent customer satisfaction variable. Hypothesis H2 is based on the strength of the literature review and research (Emerson, 1976; Cropanzano et al., 2005), indicating the relationship primary importance of customer

exchange experience in supplier applied policies and practice (RPP), which is the platform of trust (TRT).

Through a pilot with B2B professionals, the null or alternate hypothesis tested whether each independent variable does not correlate with relationship value. The p-value for the null hypothesis is 0.05. Where the p-value is less than or equal to the alpha ($p < .05$), the null hypothesis would be rejected.

Correlation analysis measured the continuous variables corresponding to the strength of the relationship and the direction of each of the six independent variables and the dependent variable (Pallant, 2016, Chapter 11). The correlation tests hypothesis H1 to confirm that there is a positive relationship between each of the B2B relationship value dimensions and customer satisfaction (SAT), even after controlling for characteristics of people and business.

Hierarchical multiple regression analysis was used to test hypothesis H2 in determining which of the six B2B relationship value dimensions will have the most significant influence (Pallant, 2016) on customer satisfaction.

Limitations

In the process of quantitatively measuring perceived value determinants through an online survey, there are limitations. The survey was a single-stage, convenience sample, conducted online over two weeks, in December 2019, and was not longitudinal. The sample group ($n = 263$) represented only a fraction of business professionals, within the defined North American B2B industrial segment population.

The research questioned only the recipient (customer) in the supplier-customer dyad, a one-sided exchange assessment limitation. In an extended research paper, data obtained from the

relationship perspective of both parties, customers, and suppliers, would add value to the B2B dyadic exchange construct.

There was a limitation, and validity risk in the collection of data from the target group in that “many people do not know or cannot admit, even to themselves, what is important” (Hague & Hague, 2018). There was a risk of question contextual comprehension. The survey had limited control of visibility into experience, bias, or subject comprehension of each candidate. Construct validity was a crucial factor in the research and hypothesis examination in the correlation of business value cognizance and financial success.

My research may have a limitation risk through social desirability bias (Grimm, 2010). Research subjects or participants, connected via my professional LinkedIn network, may have given socially desirable responses, instead of choosing responses that were reflective of their actual perception. Common method bias (CMB) or common method variance (CMV), can occur when variation in responses is caused by the research instrument, in this case, Survey Monkey, rather than the actual predispositions of the respondents that the instrument attempts to uncover (MacKenzie & Podsakoff, 2012).

As the researcher, I could not control the environment where the respondents provided answers to the questions in the survey (Baxter 2008). Responses often depend on a particular time, which again is dependent on the conditions occurring during that particular time frame.

My quantitative research method involved a structured questionnaire with close-ended questions. The respondents had limited response options based on the selection I had designed. In quantitative research, despite the application of an appropriate sampling plan, the representation of the population is dependent on the probability distribution of observed data.

The research I designed, questioned the customer to generic supplier relationship assessment. The previous research (Lages et al., 2005) had questioned the specified one-to-one customer-supplier relationship performance. Customer satisfaction can be, in my experience, be a broad and unspecific term. Business professionals are familiar with “satisfaction surveys” directed towards open-ended qualitative statements.

Significance of the Study

As an executive business leader with thirty-years’ experience within international B2B industrial manufacturing sectors, I witness competitive opportunity and risk driven by globalization and technology requiring industry practitioners to grow their customer-relationship knowledge, competence, and agility.

My research is significant in the education of organizational business leaders in an increasingly competitive globalized environment, relative to the importance of quantitative relationship value management. The quantitative assessment of the supplier-customer relationship value has a direct impact on strategic business planning and development.

The integration of relationship value in the B2B strategy is a crucial performance competitive differentiator. This research expands issue cognizance and knowledge of the identified quantitative factors influencing relationship value.

Key Terms

The following key terms are central to my study. These terms may have multiple definitions or interpretations depending on the author and context. The definitions provided represent the intended meaning within the context of my study:

- Business-to-business (B2B): transactional exchange conducted between companies rather than between a company and individual consumer. Business-to-business stands in contrast to business-to-consumer (B2C).
- Exchange: premise of a material or nonmaterial exchange between two or more parties, resulting in a positive or negative directional assessment based on the delivered invested cost and recipient perceived value (Homans, 1958; Blau, 1964; Emerson, 1976).
- Relationship: an effective interaction or sanction (Willer, 1999) between two or more persons.
- Business purpose: the creation of value within a business, fundamental to sustained success (Porter, 1985).
- Globalization: increasing interaction among and integration of, the activities, especially economic activities, of human societies around the world (Mussa, 2003)
- Competitive advantage: global strategic positioning based on an extensive range of macro- and micro-environment factors (Porter, 1998).
- Customer satisfaction: an evaluation based on the total purchase and consumption experience with the goods or services over time” (Fornell, Johnson, Anderson, Cha, & Bryant, 1996).
- Relationship performance and practice: business organizations invest in internal and external customer-facing performance and practice through business process management strategy, to achieve optimal results (Dumas, La Rosa, Mendling, & Reijers, 2013).
- Relationship trust: reliance that the exchange party will deliver the expected service or product based on experience, assessment, and the mediating perception of future expectations (Poppo et al., 2008).
- Relationship commitment: customer lifetime duration (Reinartz and Kumar, 2000).

Summary

Table 2 *Chapter 1 Summary*

Purpose of the Study	The recognition, measurement, and strategic management of quantitative exchange value in B2B companies are increasingly recognized in the context of an intangible business equity investment, which must be acknowledged, protected, and maintained.
Problem Statement	The research problem exists in the B2B relationship intangible-value knowledge gap and the resultant organizational competitive performance risk.
Significance of the Study	Research is significant in the education of organizational business leaders in an increasingly competitive globalized environment and to the performance parameters of opportunity and risk relative to the management of quantitative relationship value. The quantitative assessment of the supplier-customer relationship nonmaterial value has a direct impact on strategic business development and continuity.
Theoretical Framework	Exchange theory, social exchange theory (SET), network exchange theory (NET).
Academic Contribution	The research quantitatively examined the independent perception variables in correlation to the relationship value dependent variable of customer satisfaction. Research has identified a quantitative relationship-value knowledge gap in the B2B environment.
Contribution to Practice	The research seeks to expand issue cognizance and knowledge of the quantitative factors influencing relationship value and demographic control effect. Competitive opportunity and risk increased by globalization and technology require industry practitioners to grow their stakeholder knowledge competence and agility.

Organization of the Dissertation

This dissertation is presented in five chapters. Chapter 1 provided an introductory overview of the study. Chapter 2 reports a detailed literature review in the areas of business purpose, exchange theory, competitive advantage, customer satisfaction (dependent variable), and the six-determinant relationship-value independent variables. Chapter 3 details the methodology used in my research study. Chapter 4 presents the research findings, including the suppressor variable. Chapter 5 provides a discussion of the research results, theoretical and professional practitioner implications, a COVID-19 pandemic observation, and recommendations for future research.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

The literature review examines research and writings in the context of the theoretical framework of economic exchange theory, the correlation to quantitative business relationship-exchange value variables, and demographic control variables.

The core role of a business organization is to align performance with the expectations of stakeholders, including shareholders, employees, and customers. Failure to deliver respective entity stakeholder value (see Figure 2) risks revenue failure and decline of business entity value.

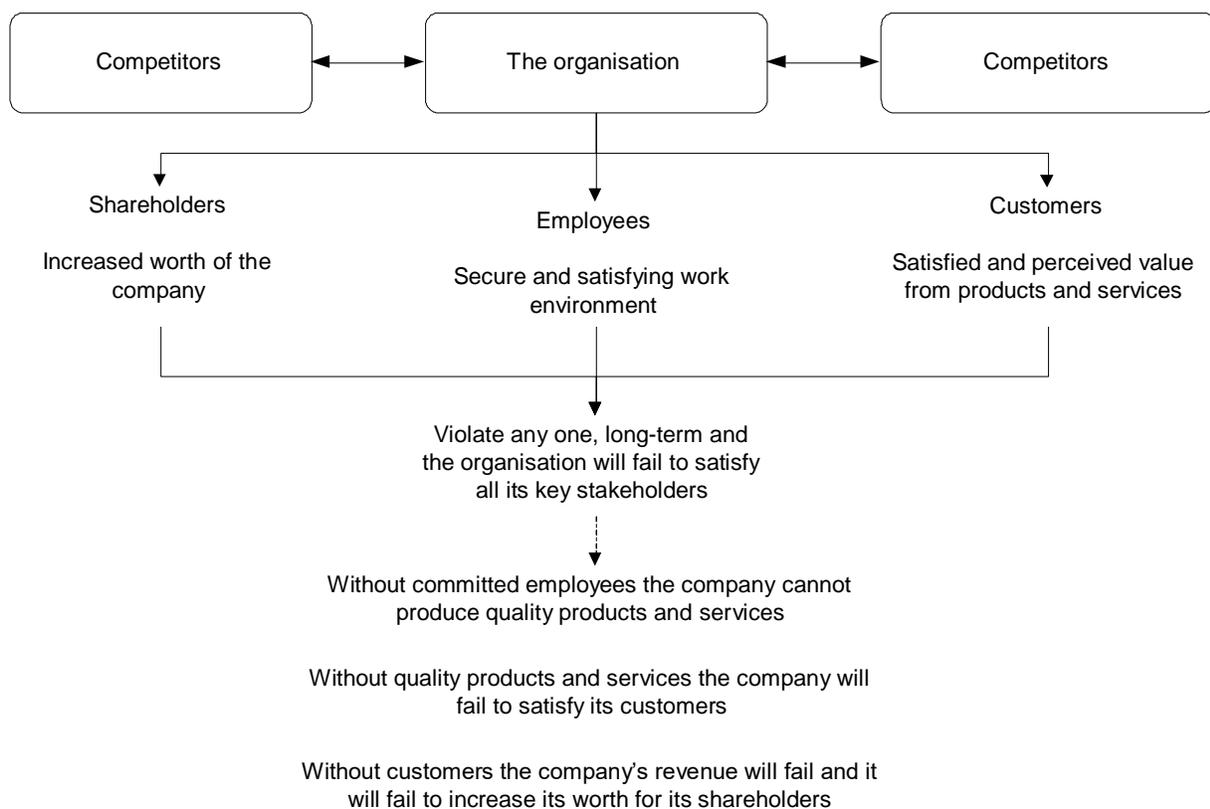


Figure 2 Satisfying Stakeholders (Thompson & Cole, 1997)

Literature-Map

The Literature Review Map presented in Figure 3 provides a visual connection and shows the relative relationship among the hierarchical structural components of the research literature review. The map supports an overview of cited literature sources under the B2B quantitative relationship value-dependent and independent variables.

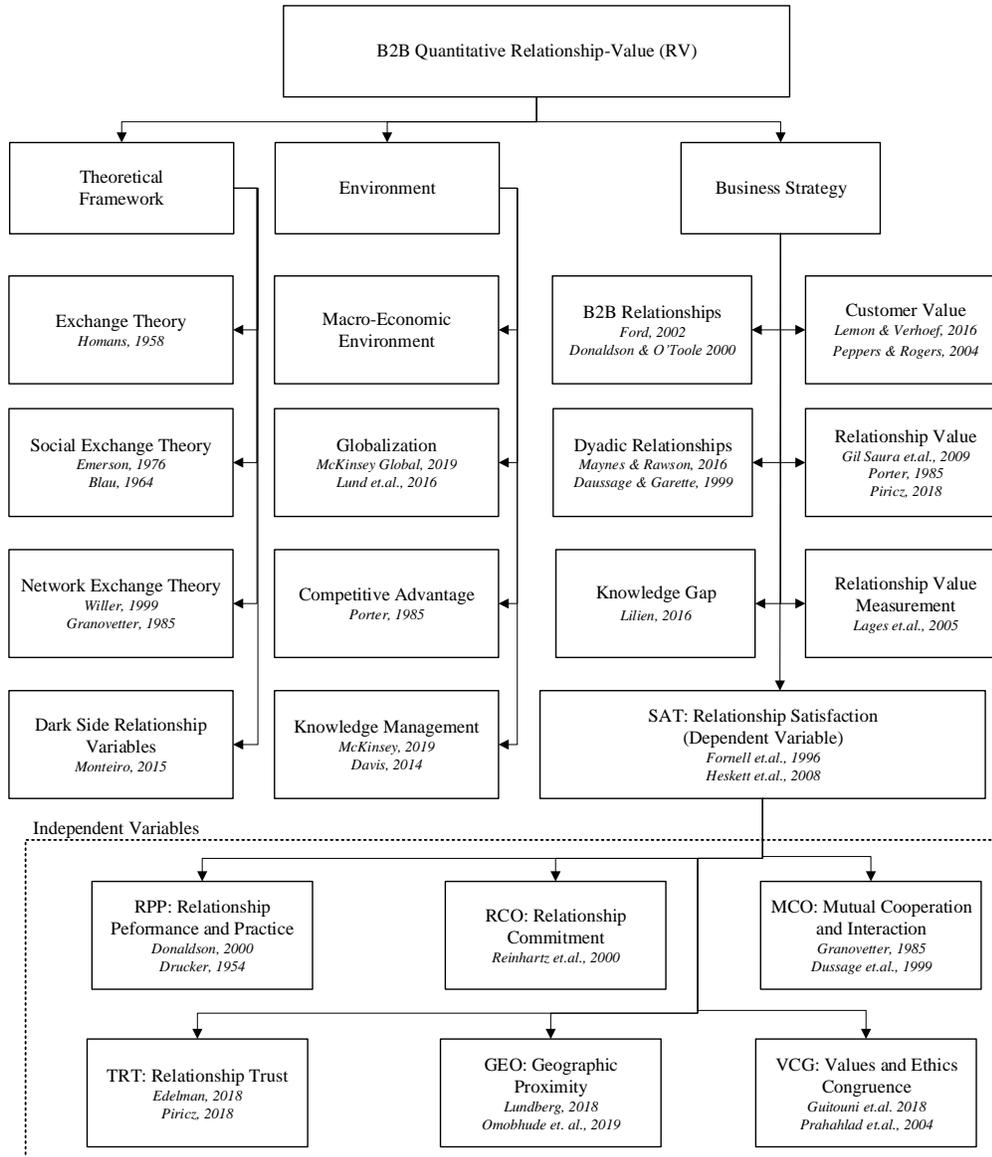


Figure 3 Literature Review Map

Theoretical Framework

Exchange Theory

Exchange theory is a leading theoretical framework of social interaction and structure, influenced by the seminal works of Homans (1958), Blau (1964), and Emerson (1976). Exchange theory is founded on the premise of a material or nonmaterial exchange between two or more parties, resulting in a positive or negative directional assessment based on the delivered invested cost and recipient perceived value.

Social relations are an effective interaction or sanction (Willer, 1999) between two or more persons, in a B2B relationship exchange, whether material or nonmaterial. The quantitative value assessment of the directional relationship experience, on the part of the customer, is central to the conceptual framework. The model in Figure 4 shows a Supplier (A) in an exchange or sanction with a Customer (B).

Willer (1999) defined three types of social relationships in the context of a two-party transactional directional, positive or negative outcome, as diagrammed in Figure 4.

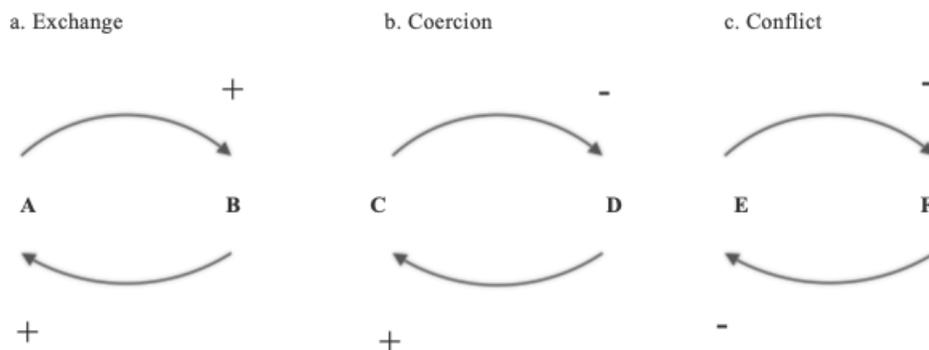


Figure 4 Three Types of Social Relation (Willer, 1999)

In social relations theory, a positive sanction between two parties is defined as an exchange. Coercion occurs when the supplier entity takes negative actions to influence a positive return. In the extreme scenario, a mutually negative sanction is defined as a conflict. The general

objective of B2B relationship interaction is to achieve a positive bidirectional supplier-customer value exchange.

Exchange theory is a relevant theoretical model in the measurement of B2B quantitative transactional relationship value. The literature review investigates economic, technological, and globalization trends influencing the economic asset value realization of strategic cognizance in the field of quantitative B2B relationships.

The behavioral effect of exchange theory in private and professional social relations (Granovetter, 1985) continues to evolve and is a valuable research question.

Social Exchange Theory (SET)

The seminal social exchange theory (SET) research by Homans (1958) examined the economic-value variables as a result of a communication or action exchange between two or more persons. SET identified the behavioral psychology of the value proportionality between the exchange value given and the behavioral value received in return. The SET research, incorporating a nonmaterial interpersonal exchange, is directly relevant to B2B relationship value research.

The identification of the tendency in a nonmaterial person-to-person interchange towards equilibrium or balance in the exchanges (Homans, 1958), supports the quantitative economic factor in a business relationship. The person or persons engaged in an exchange invest in the transactional cost. This delivered cost can be time or a defined skill competence.

Parties engaged in an exchange are conscious of the competitive options of an alternate supplier, or provider, of a nonmaterial exchange. They are mindful of delivered value in a business environment relationship communication, whether material or nonmaterial. The

position presented that rewards in the exchange are alternatives reinforces the economic context of a perceived economic value transaction (Homans, 1958).

Blau (1964) reported on the socioeconomic factors of the exchange, and the motivation for an expected value return based on the invested transaction. People in an exchange transaction tend to evolve their recipient value assessment based on experience (Homans, 1958; Blau, 1964), which influences expectation behavior in future relationship transactions. The argument presented (Blau, 1964) is that the SET effect of an over-delivery or over-service can give rise to a negative value assessment on the part of the recipient customer. Exchange equilibrium is a fundamental principle of SET.

		Type of Transaction	
		Social Exchange	Economic Exchange
Type of Relationship	Social Exchange	<p><u>Cell 1: Match</u></p> <p>Social Transaction in a Social Relationship</p>	<p><u>Cell 2: Mismatch</u></p> <p>Economic Transaction in a Social Relationship</p>
	Economic Exchange	<p><u>Cell 3: Mismatch</u></p> <p>Social Transaction in an Economic Relationship</p>	<p><u>Cell 4: Match</u></p> <p>Economic Transaction in an Economic Relationship</p>

Figure 5 Transactions and Relationships in Social Exchanges (Cropanzano & Mitchell, 2005)

The longitudinal influence and effect of relationship value based on trust, mutual benefit, and the rules or process of exchange are supported (Emerson, 1976; Cropanzano & Mitchell, 2005) and central to the B2B relationship experienced-based trust value hypothesis. The type of transaction and of relationship, each of which can be either social or economic, results in an

exchange match or mismatch (see Figure 5). The principles of exchange reciprocity are an exchange of mutual benefit, an exchange match, influenced by experience, expectations, and relational trust (Cropanzano & Mitchell, 2005; Poppo, Zhou, & Ryu, 2008). Reciprocity is a crucial factor in an exchange dyad, one way, mutually dependent, or interdependent.

Network Exchange Theory (NET)

The part of the elementary or exchange theory that focuses on structures of exchange is network exchange theory (NET), which identifies social relations conditioned by the structures within which they are embedded (Willer, 1999). The structure and process of network exchange is the norm in a professional B2B environment. NET examines the relationship exchange experience, whether a positive or negative directional transaction, as a sanction or approval (Willer, 1999).

NET research (Willer, 1999) identifies weak and robust power networks, which are fundamentally different from each other. The significance of relative network strength lies in the economic input and the results of the economic relationship value exchange. NET identifies the types of social relations (Willer, 1999) included in an experience assessment based on:

- Exchange: positive supplier and customer
- Coercion: positive supplier, negative customer
- Conflict: negative supplier, negative customer

NET predicts the relative profit (Lovaglia, Skvoretz, Willer, & Markovsky, 1995) from a negotiated exchange. Reward or recognition in return for a valued material or nonmaterial exchange is an embedded component of a dyadic two-party relationship (Blau, 1964; Homans, 1958). Network relationship power is reflected in a graph-theoretic index of exchange power and

projected economic return (Lovaglia, Skvoretz, Willer, & Markovsky, 1995). Assessment of the current and future state is an essential parameter in strategic B2B relationship value positioning.

Exchange Theory Critique

Social exchange theory (SET) research implies an economic value exchange based on the expectation of a reciprocal return or reward (Gefen & Ridings, 2002). The return belief or expectation is central to the SET concept but is not guaranteed. SET has an economic value element based on norms, experience, judgment, and implicit norms of interactions, but material or nonmaterial economic return, as an intangible, is not assured.

SET has its critics and gaps in articulation and integrated application (Cropanzano & Mitchell, 2005). The theory of constructs and concepts can be ambiguous, in the central fields of emergent relationships, resource exchange, and rules. A social exchange may imply a reciprocal response or return. Still, unlike economic exchange, there is no guarantee of a reciprocal response or return because there are no rules or specific agreements to govern the interaction (Gefen & Ridings, 2002). The absence of rules in the social exchange and the implied reciprocal value marks the difference between social exchange and economic exchange. The implied and perceived measurement of social exchange value is central to this research.

The research examines implied social exchange and specific economic exchange independent-variable factors, material, and nonmaterial.

Dark Side of Business Relationships

Exchange theory is founded on extensive applied research. Monteiro (2015) examined the dark-side economic impact of relationships maturing and, in turn, showing characteristics of coercion or conflict. SET and NET tend to the positive quantitative relationship value context, but research does identify dark-side relationship variables (Monteiro, 2015).

Dark-side relationships can present in a dyadic context when a negative dynamic occurs through complacency or fatigue, most likely in transition between a mid-term to long-term relationship status. Such a condition develops predominantly as a result of relationship conflict in areas including value co-creation, cooperation, dependence, and competitiveness (Monteiro, 2015; Anderson et al., 1994). These dark-side relationship conditions are generally initiated at the individual-to-individual level and can affect the overall B2B relationship if no corrective measures are taken.

The embedded close business relationship that develops can make the parties more prone to raise issues of objective or subjective dissatisfaction, causing conflict that can erode the relationship's collaborative-value equity. Relationships can deteriorate for an extended period, and during this time, the exchange parties can be unaware of or in denial of such deterioration (Monteiro, 2015; Anderson et al., 1994).

Economics

Business Economics

The importance and research relevance of macroeconomic data and trends highlight the leading globalized position that U.S. business organizations have taken. The macroeconomic data points to the increasing opportunities and risks experienced by U.S.-based B2B entities as a result of globalized competition. The U.S. and international markets supplied by U.S.-owned entities present an attractive economic opportunity for international competitors. The recognition and scale of such global economic risk to U.S. B2B organizations is a crucial factor in this research.

Of the 6 million business entities registered in the United States in 2017, 5.89 million (98.1%) employ fewer than 100 personnel, and 5.34 million (89.0%) employ fewer than 20

personnel, showing the level of employment in small business organizations (United States Census Bureau, 2020). Companies employing limited numbers of personnel are, in my professional experience, at an increased competitive risk due to a dependence on a limited number of customers and suppliers, increasing the importance of relationship-exchange value determinants.

Globalization

Globalization can be defined as “the increasing interaction among and integration of, the activities, especially economic activities, of human societies around the world” (Mussa, 2003, p. 15). Globalization is a recognized phenomenon (McKinsey Global Institute, 2019) with multiple layers of complexity and impact as a result of political agendas, populism, trade policies, trade agreements, and potential local and global conflict (Rodrik, 2018). The strategies of global interaction at the national and the business entity levels are founded on an expectation of a perceived or explicit value, through targeted entity earnings growth or as a market position defensive action.

Competitive Advantage

Business organizations adapt their global strategic positioning based on an extensive range of macro- and micro-environment factors, including shifting technologies, innovation, market needs, and trends, taxation, labor cost, and ethical values. A key driver across these factors is a global-business competitive strategy. Porter (1998) pointed out that companies are on the front line of international competition. They need to recognize this expanded market and adopt a globally competitive mindset.

The increasing globalization of B2B environments increases the value of innovation and communication of organizational exchange positioning (O’Cass & Ngo, 2012). The global

markets, through increasing technology touchpoints, present a challenge threat and a growth opportunity for organizations (Lutz & Nguyen, 2011; Grewal et al., 2015). The Institute for the Study of Business Markets (ISBM, 2019) identified globalization factors affecting B2B relationship exchanges, including increased transactional sophistication and the growth of emerging markets.

Innovation in product and service remains at the core of competitive advantage. Leading global organizations continually seek to enhance their differentiation. The concept of business ethics also has become an increasingly important factor in globalized competitive markets. Business organizations that implement and demonstrate an embedded value ethics strategy that sets them apart from competitors create differentiation a potential competitive advantage (Porter, 1988).

Knowledge Management

Global B2B value chains, initially driven by relatively low-labor costs, are increasingly differentiated based on knowledge and new market access. The growth of internal market consumer demand in China and India is reducing the global B2B economic relationship-value assessment of low-skill, low-cost labor (McKinsey Global Institute, 2016; McKinsey Global Institute, 2019).

Knowledge management driven by education and technology has become increasingly important in B2B relationship needs and value assessment. There are trends toward a sustained significant investment, unconstrained by geography, in education, language, technology, and process required to succeed in these value chains (McKinsey Global Institute, 2016; McKinsey Global Institute, 2019). The accelerated global investment in narrowing the relationship

knowledge-gap differential poses a more significant challenge to the traditional norms of the B2B environment.

Business leadership is challenged to adapt to these seismic market changes (Davis, 2014), to be agile, to focus on the changing expectations, on both the inbound supply and output customer relationship management.

Business Strategy

Business Purpose

The understanding of how value is created within a business is fundamental to its economic purpose and sustained organizational success (Porter, 1985).

Companies create value by acquiring raw materials or competence, and through a process, achieve an output of a product or service to meet known or projected demand. The tangible and intangible value created and captured by an organization drives its profit return. Understanding how it creates, enhances, and delivers value is crucial to an organization's competitive advantage. Porter (1985) stated that value created and captured, less the cost of creating value, equates to the margin.

The sustained success of each business entity is connected to the management of financial return on assets (ROA), a return in investments (ROI), or return of equity (ROE). The recognition of a supplier-customer relationship as an intangible organizational asset, following the same mindset as for a traditional tangible fixed business asset, is a crucial prerequisite to success in a rapidly changing global business environment. Strategic best practice business relationship initiatives comprise a substantial continuity risk mitigation parameter (Adkins, Thornton, & Blake, 2009).

B2B Relationships

Companies in the B2B markets, in comparison with those in the B2C markets, usually have fewer actual customers (Lutz & Nguyen, 2011). The B2B relationship generally embodies a higher level of cooperation, an exchange investment advance on the part of the supplier, with a tendency toward customized solutions. A higher level of relationship investment by the supplier and the recipient customer creates a risk of dependence, typically exposing the supplier, and thereby weakening its relationship power (Lutz & Nguyen, 2011; Kotler, 2003).

The supplier-customer relationship in B2B markets evolves, requiring a mutual process of relationship development, management, and commitment to obtain the best value from the relationship (Ford, 2002; Gounaris, 2005). The B2B supplier-customer relationship as a unit of value requires continued attention. Additionally, the supplier-customer relationship is built on a management process that uses individual-customer data to enable a simple and mutually trustworthy and valuable proposition (Cranfield School of Management Research Club, 2019).

Companies are rationalizing their numbers of suppliers and financially committing to those that are likewise committed to the two-way relationship. Company results are significantly improved through service and by establishing committed long-term relationships with suppliers (O'Boyle, Fleming, & Ott, 2013).

Longevity in business relationships has been characterized as “loyal” (Gounaris, 2005). Organizations are recognizing emerging models of B2B relationship value (McKinsey Global Institute, 2016) and assigning attributes based on development, retention, or exit strategies.

Understanding the customer perspective as the “180-degree view” (Nykamp 2001; McKinsey 2016) is key to understanding the customer experience and value assessment. Process investment and commitment are required to develop systems to support high-priority

opportunities. These include communication strategies based on the understanding of customer needs across the purchase cycle; and measuring the impact of each of these efforts and the cumulative impact of customer experience-based CRM on customer satisfaction and value (Nykamp 2001; McKinsey 2016).

Advancement in information technology has accelerated the use of customer relationship management (CRM) tools to maximize the value of relationship touchpoints. A relationship intended to deliver value to the customer is involved. Touchpoints include not just the individual transactions and ongoing communications within the relationship, but also the results the customer achieves and the communications the firm employs to promote customer awareness and appreciation of such results. CRM integrates the concepts within knowledge management to support the decision-making process to retain profitable long-term relationships and is a critical resource for business success (MacStravic &, 2004; Nawaser, Torbehbar, Zafari, Torbehar, & Gashti, 2014). Organizations have become increasingly aware that a knowledge management strategy and investment relative to relationships, even though intangible, are crucial in the globalized competitive market to protect and develop B2B relationship value (Snowden & Garfield, 2016).

The Relationship Matrix (Donaldson & O'Toole, 2000) assigns four categories based on the belief and action components inherent in a relationship. As shown in Figure 6, the characteristics of a long-term relationship exist within the bilateral quadrant, which contains the high belief and the high action components through which the partners cooperate for mutual advantage (Donaldson & O'Toole, 2000).

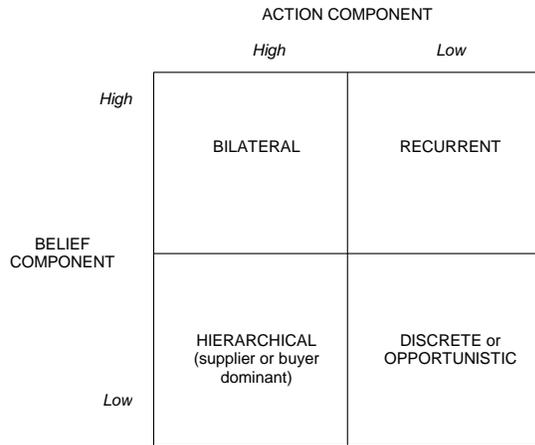


Figure 6 The Relationship Matrix (Donaldson & O'Toole, 2000)

The hierarchical or supplier dominant quadrant in Figure 6 is typical within the original equipment manufacturing industry, characterized by a dominant partner that specifies the nature of the unidirectional relationship

Knowledge Gap

B2B relationship value-driver research continues to lag behind that in the B2C sectors. The knowledge gap (Lilien, 2016) supports the significance of B2B relationship value-driver research. Business entities are recognizing the increasing access via technology to supplier-customer inter-firm touchpoint data collation, but question how to manage this information, what to look for, and what to do with the information (Lilien, 2016).

Customer Satisfaction (Dependent Variable)

Business organizations increasingly recognize the importance of customer satisfaction and their connection to customer retention and supplier profitability (Hill & Alexander, 2006). Customer satisfaction can provide business benefits, including loyalty – extending the customer lifetime value – and the likelihood of recommendation – the business reference value (BRV). Measured and embedded strategic processes are a crucial operational goal for many organizations.

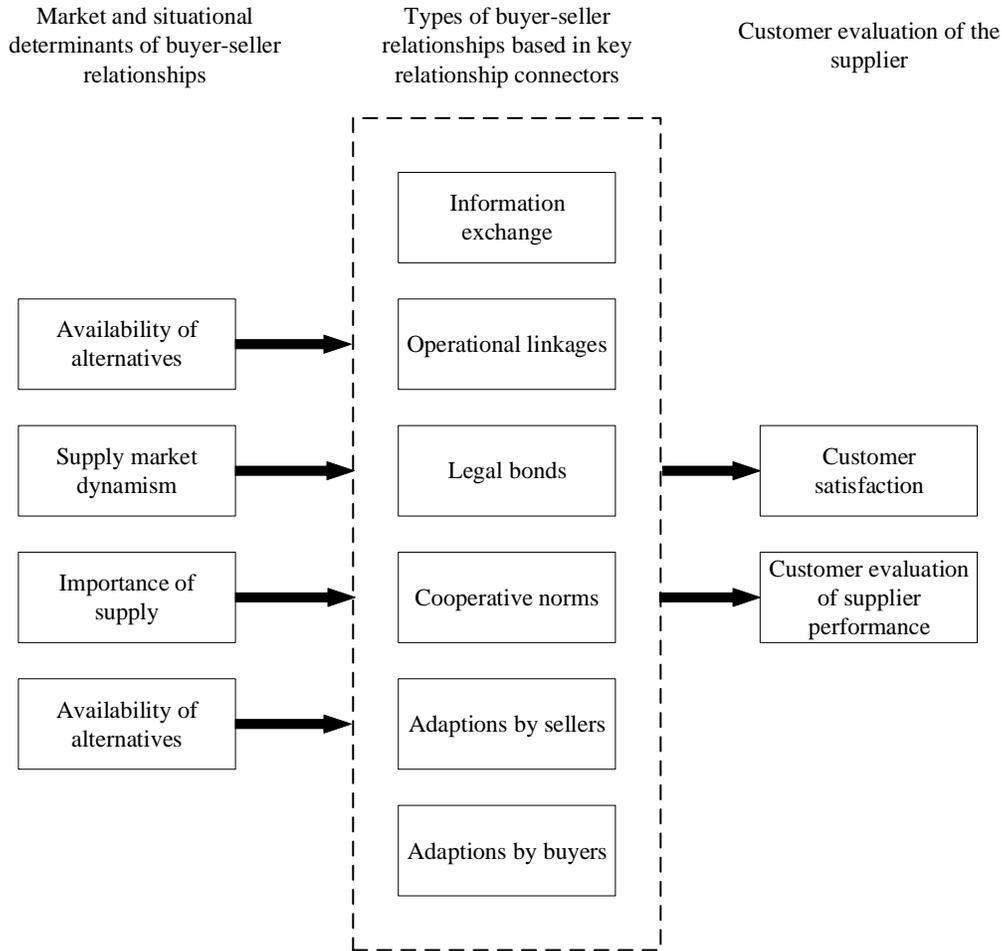


Figure 7 Schematic Overview of Key Constructs Relevant to the Practice of Buyer-Seller Relationships (Cannon & Perreault, 1999)

Business buyer-seller relationship connectors (Cannon & Perreault, 1999), rooted in SET (Homans, 1958; Emerson, 1976; Willer, 1999), demonstrate the critical relationship constructs and connections that have an impact on customer satisfaction (see Figure 7).

Customer satisfaction is defined as an “overall evaluation based on the total purchase and consumption experience with the goods or services over time” (Fornell, Johnson, Anderson, Cha, & Bryant, 1996). It is a “barometer that predicts future customer behavior” (Hill, Roche, & Allen, 2007). Customer satisfaction is influenced by delivered product or service features, expectations, experience, and perception of equity (Fornell et al., 1996; Zeithaml & Bitner,

2003). Customers are value-oriented (see Figure 8) concerning “total costs, both price and costs incurred in receiving the service” (Heskett, Jones, Loveman, Sasser, & Schlesinger, 2008).

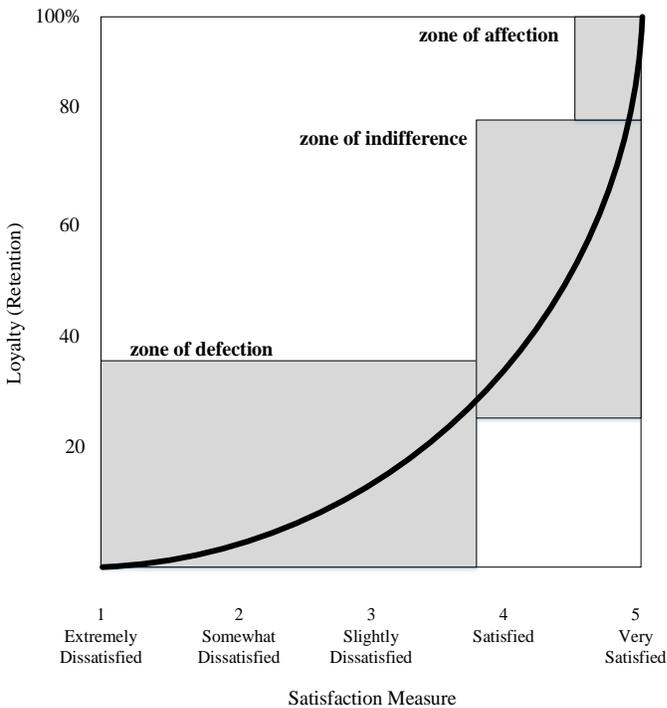


Figure 8 A Satisfied Customer Is Loyal (Heskett et al., 2008)

Research confirms the link between customer satisfaction and customer loyalty, and the economic supplier benefits, including profitability and market advocates (Khadka & Maharjan, 2017; Heskett, Jones, Loveman, Sasser, & Schlesinger, 2008) in the form of loyal customers.

The theoretical relations among the constructs of customer engagement, customer perceived value, and satisfaction are researched and confirmed (Dovaliene, Masiulyte, & Piligrimiene, 2015).

Relationship Performance and Practice (H1a)

B2B customer value, as a dependent quantitative and qualitative measured business performance variable, is extensively researched (Monteiro, 2015; Gil-Saura, Frasquet-Deltoro, &

Cervera-Taulet, 2009; Piricz, 2018). Value can be both increased and diminished as a result of either tangible or intangible actions, or exchange between the respective individuals or groups (Corsaro, 2008).

Business organizations invest in internal and external customer-facing performance and practice through business process management strategy, including CRM, to achieve optimal results and service and to gain a crucial market competitive advantage. Business process management is “managing entire chains of events, activities, and decisions that ultimately add value to the organization and its customers” (Dumas, La Rosa, Mendling, & Reijers, 2013). “The Next Wave of Process Strategy” (Power, 2012) published the trend toward organizational cross-functional teams’ engagement in review of performance and continual process improvement projects.

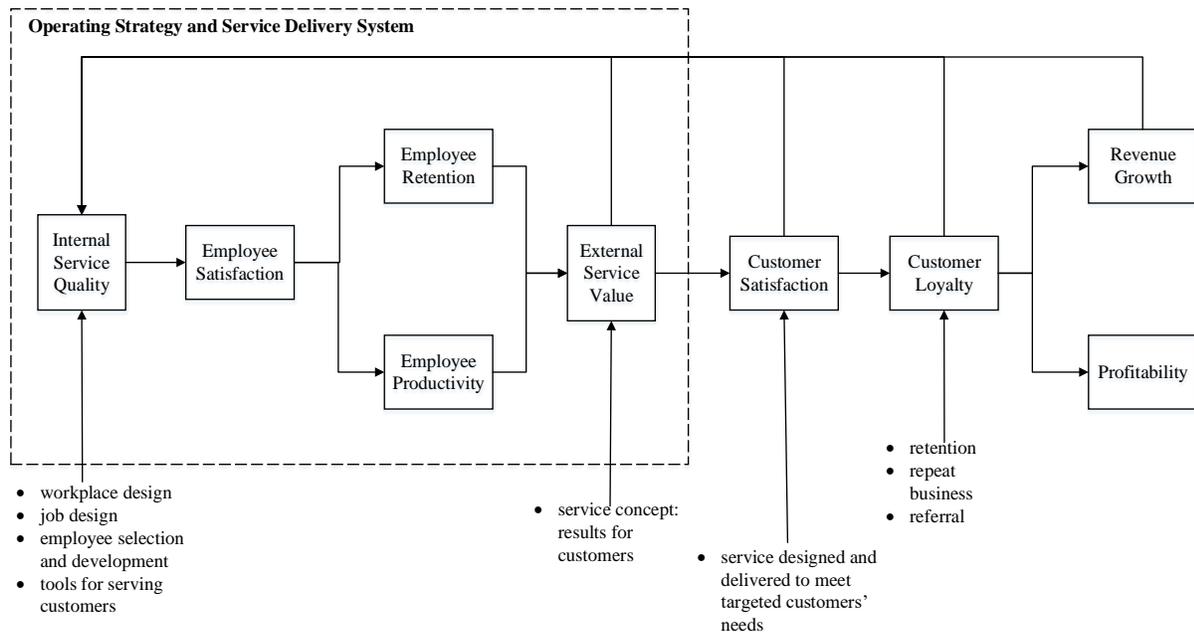


Figure 9 The Links in the Service-Profit Chain (Heskett et al., 2008)

The business process is modeled on “The Links in the Service-Profit Chain” (Heskett et al., 2008) from the selection and development investment of employees (supplier), through to

customer satisfaction and loyalty retention objectives, supporting revenue growth and profitability (see Figure 9).

Porter (1985) identified relationship equity as an essential parameter of organizational competitive advantage. A successful business will set out to create differentiation from competitors or to substitute products or services strategically. Giving strategic attention to the customer's perceived or measured value is a business fundamental.

Customer-relationship value assessments remain rare (Karanen & Jalkala, 2014) in the B2B markets. Business leaders must take an active role in and responsibility for the direct value-chain recognition of the business relationship. The successful business leader invests increased time with customers because they have valuable things to say, and they demand to be heard by their suppliers (Colletti & Fiss, 2006).

Evidence-based performance variables, including those that influence or affect customer-relationship value, are crucial factors in effective, collaborative, and sustained business improvement initiatives that have substantial economic consequences for the company (Ford et al., 1998, p. 100).

The recognition of relationship value has been reinforced by digital technologies enabling business organizations to maximize each B2B exchange, based on detailed recipient-need data analysis (Binder & Hanssens, 2015, p. 4). The information technology evolution supports the broader market opportunity and threat in the supplier-customer relationship.

Business organizations are increasingly recognizing the contribution of the analytical economic exchange value seen through the customer experience, referred to as the customer journey (Lotz, Rabbe, & Roggenhofer, 2018). Understanding the recipient customer's experience and the journey is a crucial component of the quantitative exchange relationship-value

assessment (Lemon & Verhoef, 2016). The myriad technology-driven exchange touchpoint options continue to expand, creating opportunities and threats.

Successful organizations manage “what the customer wants” and “what the customer is worth” (Yohn, 2018; Peppers, Rogers, & Dorf, 1999). In the assessment of a potential long-term relationship, the organization will assess future earnings over time, effectively calculating net present value. The calculation of customer lifetime value (LTV) and the categorization of customers by their respective LTV are critical for financial success. LTV provides a process that enables a business to assess a return-on-investment (ROI) model, based on a defined period.

Peppers & Rogers (2004), defined LTV as:

- i. Most Valuable Customers (MVCs) have the highest LTVs and represent the core of the current business. The primary objective of MVCs should be customer retention.
- ii. Most Growable Customers (MGCs) have the most unrealized strategic value. Their LTVs are usually lower than that of MVCs, but their growth potential is often higher than that of MVCs. MGCs could be more profitable than they are now, and the primary objective with them is customer growth.
- iii. Below Zero (BZ), customers will probably never deliver enough profit to justify the expense of serving them.

As stated previously, understanding the market and customer-value relationship is critical to success. Relationship Portfolio Analysis examines the dynamics of the supplier/customer relationship, benefits, costs, and profitability of each relationship. The Shapiro (1987) model views customers as profit centers using only quantitative data (see Figure 10).

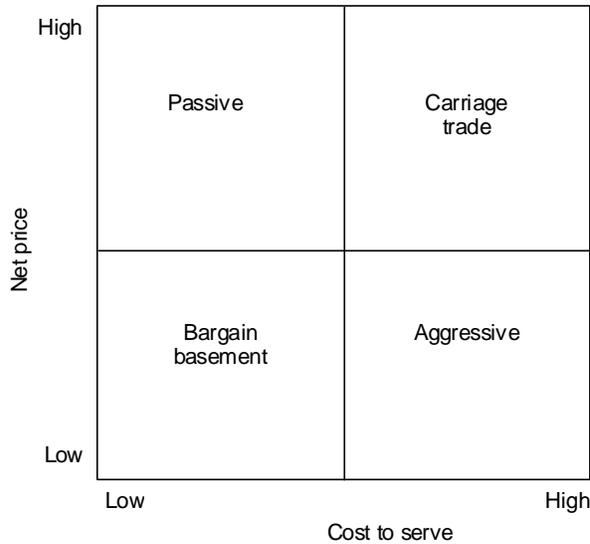


Figure 10 Customer Classification Matrix Source (Shapiro &, 1987)

The business costs associated with customer relationships are presale, production, distribution, and post-sale service. The Shapiro (1987) model quantifies and segments customers by net price and cost to serve. Each quadrant in Figure 10 represents a different profit contribution. Shapiro’s key argument concerning the hypothesis is that profitability can be managed as the relationship develops.

Shapiro (1987) identified the relationship value as a function of:

$RV_1 = f(C_j, Q_j, R_j, S_j)$ where:

RV_1 is the value of the relationship to the seller

C_j is the criticality of the goods purchased by the buyer

Q_j is the quantity of the seller’s output consumed by this buyer

R_j is the replaceability of this buyer (i.e., switching cost of accessing other buyers)

S_j is the cost savings resulting from the buyer’s practice and procedures

The Balanced Scorecard (“Balanced Scorecard Institute,” 2019) developed not only a measurement system but also a management system for relationship value. Within the primary

research, evidence of relationship measurement and management was not proven. Traditional financial measures are inadequate for guiding and evaluating the journey that information age companies must make to create future value through investment in customers, suppliers, employees, processes, technology, and innovation.

The B2B-RP scale (Lages et al., 2005) was developed to measure the relationship between trading entities quantitatively. The evidence-based survey was completed with 400 small-to-medium size entities, in 2005, in Portugal, trading in the B2B environment. The scale measured relationship policies and practices, commitment, trust, cooperation, and satisfaction, relative to relationship performance. The research findings demonstrated evidence of reliability as well as “convergent, discriminant, and homological validity” (Lages et al., 2005). The research identified the business tendency to trust, in the context of relationship performance and value. The B2B-RP scale provided a yardstick with which to measure the performance of an individual relationship (Lages et al., 2005).

Relationship Commitment (H1b)

Customer commitment or loyalty has become an increased focus in the business environment. Business entities need to attend not only to relationship retention but also to the broader spectrum of relationship-value variables.

Defecting customers are less of a problem to a business than are customers that consume high resource cost and do not contribute economic value. Organizations that can be at a higher risk of diminishing value return over time are those with poor process management or that choose ignorance (Monteiro, 2015).

Organizations are now assessing customer value and precise profit over time. Reinartz and Kumar (2000) researched the nature of the association between customer lifetime duration

and customer profitability. They tested four propositions and found that it was a gross oversimplification to equate loyal customers with profits. Revenues and costs, not the duration of tenure, drive the lifetime value of a customer.

Reinhartz and Kumar (2000) identified short-term customers as “butterflies” and long-term customers as “barnacles.” Based on the value, they argue that it is essential to know when to let the butterfly go. Contrary to general opinion and thereby probing the hypothesis, they find that the barnacles, which are firmly attached to the supplier, may cost the organization more in the long run.

Relationship Trust (H1c)

Relationship trust is based on the reliance that the exchange party will deliver the expected service or product. Such reliance is based on experience, assessment, and the mediating perception of future expectations (Poppo et al., 2008).

Relationship research has identified the motivation to establish a collaborative exchange relationship and to affirm security through the perceived notion of trust. The conditions that give rise to trust in the context of a B2B relationship are central to my research. The foundational development of relational trust is a progressive journey and is not by necessity, symmetrical between parties (Gounaris, 2005; Piricz, 2018).

Building a trust relationship with organizational stakeholders is an economic investment based on multiple facets, including character, environment, and competence. The psychological decoding of actions is a determinant influence in the attribution and value of trust. Respective global communication norms are an influential factor in the assessment of relationship-value trust (Corsaro, 2008; Carucci, 2018).

Relationship Mutual Cooperation and Interaction (H1d)

Leading organizations in the B2B sectors are committing resources to the development and extension of relationships with customers, suppliers, and employees. Higher performing businesses commit to the development of added-value solutions with their customer base and the sustained management of collaborative relationships (McKinsey Global Institute, 2019).

Engaged design-driven communication in supplier-recipient development, collaborative partnering in the optimized product or service delivery process design, mitigate development risk, creating the opportunity for a unique shared-value connection (Sheppard, Kouyoumjian, Sarrazin, & Dore, 2018; Prahalad & Ramaswamy, 2004).

Dubois and Håkansson (2002) examined the embedded business relationship within the industrial business sectors. Their research found that where there was evidence of an embedded customer-supplier relationship, there was a confirmation of cost efficiencies and value creation. Embedded relationships can be used to increase cost efficiency and function as an essential foundation for value creation (Dubois & Hakansson, 2002). Dubois and Håkansson also recognized a dynamic feature of the relationship that can give rise to innovations, new knowledge, new values, and new ways to use resources.

Business organizations increasingly recognize the economic value of closer reciprocal, shared value relationships with customers and suppliers. Shared value incorporates policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates (Porter & Kramer, 2011).

An essential component of a dyadic B2B relationship is the development of interdependence between respective entities (Anderson, Hakansson, & Johanson, 1994; Granovetter, 1985), an essential aspect of relationship value (see Figure 11).

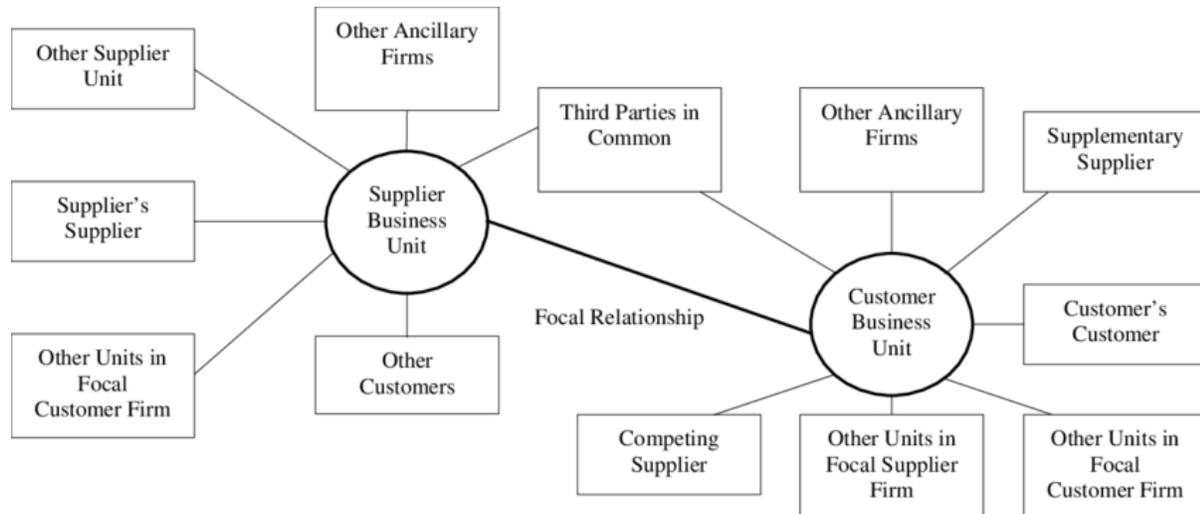


Figure 11 Connected Relations for Firms in a Dyadic Relationship (Anderson et al., 1994)

Businesses that have established a long-term relationship may demonstrate signs of a dyadic mutual dependence. It can be argued that companies are increasingly dependent on the relationship, due in part to the reductions in the cooperative process of products and services value.

This dyadic mutual dependence can be technical dependence: when two firms use compatible equipment and adapt their mutual business activities to each other in a technical sense; time dependence: when two firms have a time-based need or synchronization of their mutual business activities; knowledge dependence: the interaction processes between two firms leaning on each other's strengths and weaknesses; social dependence: interaction between two firms is based on personal relationships; economic or juridical dependence: formal dependence, such as via written agreements, that may exist between two firms (Maynes & Rawson, 2016; Nykamp & McEachern, 2001).

Organizations seeking a dyadic customer or supplier alliance are generally engaging in diversification from the core business-value strategy (see Figure 12). Business entities should be cognizant not to empower an alliance to distract from the central organization's economic-value drivers (Maynes & Rawson, 2016; Dussauge & Garette, 1999).

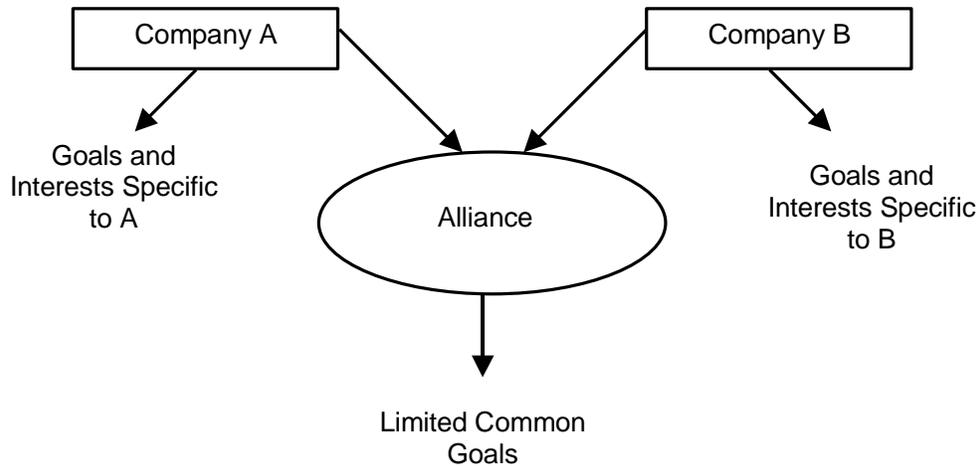


Figure 12 Representation of an Alliance Source (Dussauge & Garette, 1999)

Relationship Business Geographic Proximity (H1e)

Research identifies the benefits of relative geographic proximity to the opportunities to transmit knowledge (Gallard & Torre, 2005). Permanent geographic proximity corresponds to the colocalization of firms, from temporary geographic proximity. They are characterized by momentary interactions enabling actors to meet without necessarily requiring colocalization.

Geographic proximity is a unique relationship factor that is based on direct face-to-face spatial component conditions enabling the dissemination of “complex tacit knowledge” (Omobhude & Chen, 2019, p. 1).

Lundberg (2008) researched regional strategic networks and the geographical value paradox, finding that “geographical proximity does have considerable business value,” notably in

business research and innovation. Ganesan, Malter, and Rindfleisch (2005) also researched geographic proximity, identifying the tangible-product creativity and development that results (see Figure 13). Regional knowledge clusters, typical in higher or niche-technology sectors, provide that opportunity for direct relationship collaboration and development.

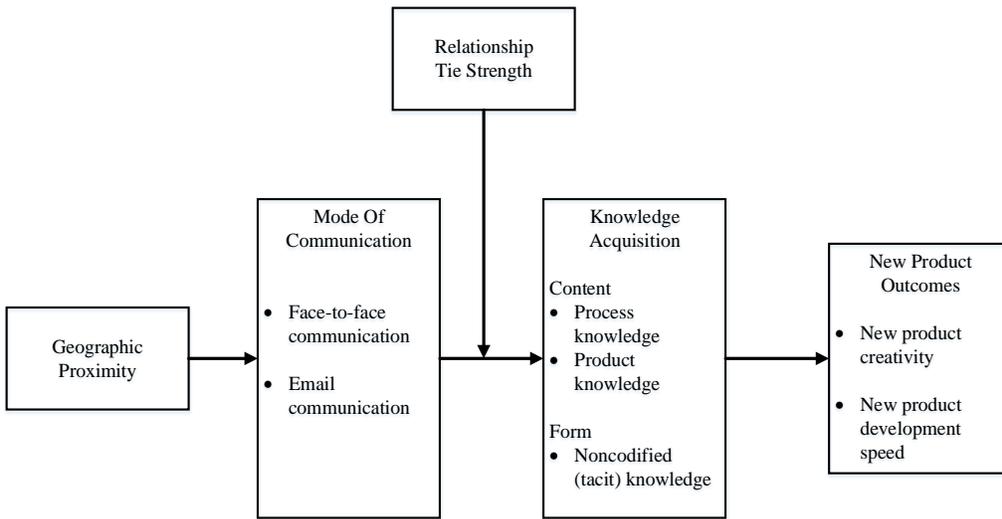


Figure 13 The Effect of Geographic Proximity and Relational Ties on New Product Outcomes (Ganesan, Malter, & Rindfleisch, 2005)

Relationship Values and Ethics Congruence (H1f)

The Congruence Framework defines congruence as the “harmonious alignment between individuals and their organizations and communities” (Chamberlain, 2014). Research has identified a positive directional correlation between values congruence, innovation performance, and process improvement, critical factors in an organization’s competitiveness (Preziosi & Gooden, 2011; Heaps, 2001; Meglino, Ravlin, & Adkins, 1989).

Relationship congruence (see Figure 14) is evident in organizations that “behave like communities of purpose, communities that are bound together by their commonality of interest and sustained by the co-creation of mutual benefit” (Chamberlain, 2014).

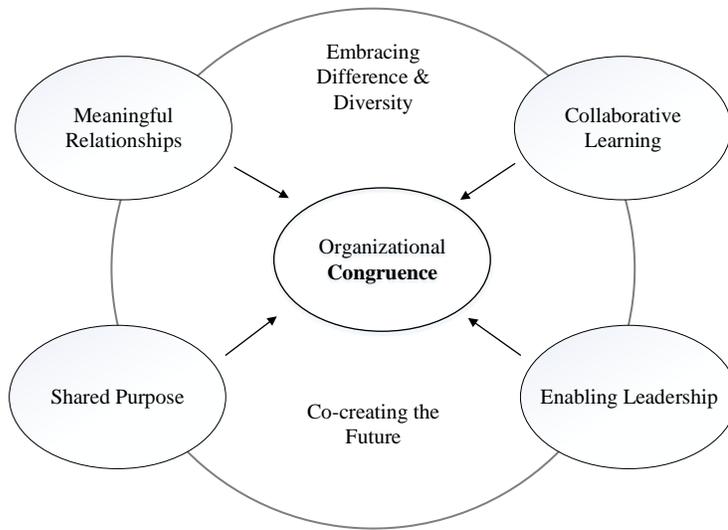


Figure 14 The Conditions and Attitudes for Organizational Congruence (Chamberlain, 2014)

Relationship Control Variables

The research is designed to investigate the demographic profile of the sample population and to test the control effect of each independent of the quantitative relationship-value dependent variable, customer satisfaction.

Research (Swart & Roodt, 2014; Baron & Kenny, 1986; Matzler, Grabner-Krauter, & Bidmon, 2006; Hanzaee & Andervazh, 2012) shows that demographic variables, including age, education, and professional experience, play a directional quantitative relationship role demonstrated in Figure 15.

Research is extensive in the B2C sectors in the context of relationship brand loyalty and retention, based on a combination of transactional mediator experience and customer demographic segmentation moderating variables, as shown in Figure 15.

Demographic characteristics have been found to affect purchase decisions. Age and gender influence perceived supplier “competence, integrity, and benevolence” and relationship “trust” (Hanzaee & Andervazh, 2012, p. 1405).

Research (Baron & Kenny, 1986, p. 1181) recommends the implementation of applied procedures to optimize the quantitative effect of causal relationship moderators, incorporating a wide range of demographic and market segment phenomena.

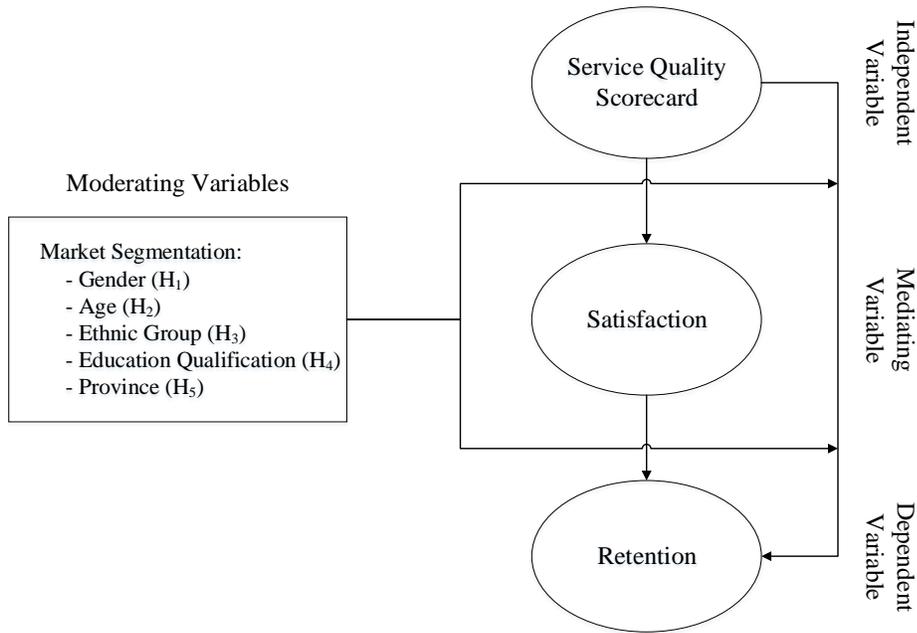


Figure 15 Satisfaction Retention Moderator Mediator Model (Swart & Roodt, 2014)

Table 3 *Literature Review Comparison Table*

Study	Construct	Purpose	Method	Sample Size	Relevant Findings
Luis Filipe Lages, Andrew Lancastre, and Carmen Lages. 22 March 2005 Bringing Relationship Marketing Theory into B2B Practice: The B2B-RP Scale and the B2B-RELPERF Scorecard	Relationship Value (RV)	The study presents a new measurement scale to assess the performance of a relationship between two firms. The B2B Relationship Performance (B2B-RP) scale is presented as a high order concept	The unit of analysis for this research is the specific buyer's relationship with the supplier, from the buyer's perspective. Customer's view that is likely to be determinant to the relationship development and performance	395 valid questionnaires, above the minimum number (381) required for a 95% confidence level and a 5% sampling error	The multi-dimensional scale shows strong evidence of reliability as well as convergent, discriminant, and nomological validity. Findings also reveal that B2B relationship performance is positively and significantly associated with loyalty
Wolfgang Ulaga, Andreas Eggert 2006 Value-Based Differentiation in Business Relationships: Gaining and Sustaining Key Supplier Status	Relationship Value Creation	The research investigates avenues for differentiation through value creation in B2B relationships.	Interviews with purchasing managers in manufacturing companies The sampling process ceased when saturation was reached.	Randomly selected 1,423 members. 303 returned (response rate of 21.3%)	Relationship benefits display the potential for differentiation in key supplier relationships than cost considerations. Price shows the weakest potential for differentiation

Study	Construct	Purpose	Method	Sample Size	Relevant Findings
Daniela Corsaro. October 2008 Relationship Value in Business Markets -Strategic, Relational and Technological Aspects	Relationship Value (RV)	Paper aims to understand what relationship value represents for customers and suppliers and how it can be represented.	Qualitative research method based on cases studies	Methodology: 8 dyads and 3 triads (25 in-depth interviews) in the security industry have been analyzed.	Value influences how supplier and customer interactions in a given relationship, and the supplier and customer choice to develop the relationship to keep it alive, or even to end it, besides the possibility to set up a “rating” in terms of the importance given to the various relationships
Irene Gil-Saura, Marta Frassetto- Deltoro and Amparo Cervera- Taubert. February 2009 The value of B2B relationships	Relationship Value (RV)	Contribute to the knowledge of how relationship value, trust, commitment, satisfaction, and loyalty intentions are defined and relate to each other	Empirical analysis consisting of quantitative intervention, ad-hoc survey, structural equation modeling contrasts the hypotheses on the links between the constructs analyzed.	A survey population of 503 companies; a response ratio of 54.9%	Relationship value has a positive influence on trust, commitment, and satisfaction towards the supplier. Trust has a direct, positive effect on commitment.

<p>Alexandra Lutz, Van Nguyen. 2011 Important attributes influencing B2B customer value in the EMS market</p>	<p>Customer Value</p>	<p>The importance level of attributes is investigated to see which attributes are more or less critical when B2B customers place an order. It can be interpreted as the relationship between the created value and the accompanying cost.</p>	<p>Kano model is used as the qualitative approach to assess customers' perspectives. Also, a Likert scale to measure the degree of importance of attributes is applied as the quantitative approach.</p>	<p>Survey panel of 325 companies; 65 responses received – only 47 usable for full analysis.</p>	<p>Product quality' is selected as the most crucial aspect when the customers were asked to rank the importance of the nine aspects. 'Delivery' is in the second position, 'supporting services in the third position, and 'brand' is the least important in considering the created value but also the accompanying cost.</p>
<p>Aron O'Cass, Liem Viet Ngo January 2012 Creating superior customer value for B2B firms through supplier firm capabilities</p>	<p>Capability</p>	<p>Examines to what extent the creation of superior performance, relationship, and co-creation value is driven by market orientation, product innovation, and marketing capabilities in B2B firms?</p>	<p>Convenience survey (Australia)</p>	<p>1,000 B2B entities; response rate of 15.5%.</p>	<p>Product innovation capability and marketing capability partially mediate the relationship between a firm's market orientation and its ability to create value (performance and co-creation).</p>

<p>Douglas M. Lambert, Matias G. Enz. December 2012 Managing and measuring value co-creation in business-to-business relationships.</p>	<p>Collaborative Value,</p>	<p>Explore the importance of developing cross-functional, cross-firm teams in B2B relationships, and to explain the mechanisms by which cross-functional involvement enables value co-creation</p>	<p>Dyadic case-study approach and a collaboration framework</p>	<p>Longitudinal interviews with 16 persons.</p>	<p>Cross-functional involvement is a crucial driver of financial performance. Value co-creation occurs during three cyclical and interrelated phases through which customers and suppliers interact.</p>
<p>Pi-Chuan Sun, Fu-Tien, Pan, Pi-Chu Wu, Ching-Chuan Kuo. 2014 An empirical study of B2B relationship value – offering type as a moderator</p>	<p>Relationship Value (RV)</p>	<p>The study attempted to integrate the product and service marketing context into the framework of the drivers and the outcomes of B2B relationship value.</p>	<p>Based on the model proposed by Ulaga and Eggert (2006), this study examines relationship value concerning two fundamental dimensions of value creation benefits and costs and three levels at which these drivers operate (internal operations).</p>	<p>550 questionnaires sent to 275 companies</p>	<p>Empirical results revealed that compared with relationship costs, relationship benefits have more significant effects on relationship value.</p>

Heather L. Monteiro. 2015 When Good Business Relationships Go Bad: A Quantitative Analysis of Dark Side Variables in Mature Supply Chain Relationships	Relationship Value: Dark Side Variables	The quantitative study examines the dark side effects of relationship variables on relationship financial performance, and the likelihood of relationship termination, moderated by relationship quality.	A cross-sectional survey was conducted with a population of logistics purchasers and providers.	Distributed to 1,800 email addresses, with 305 responses	Of the 10 hypotheses, 3 was supported; contributing evidence supported the positive effect of relationship quality on the path between some relationship variables and performance, thereby corroborating SET.
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Conclusion

The literature review supports the components of value-creation and process management corresponding to the customer assessment and perception, at the individual and organizational exchange transaction levels (Donaldson & O'Toole, 2000).

The relationship-equity value knowledge gap between the B2C and the B2B environments is an opportunity (Lilien, 2016), and a warning to B2B organizations, and central to the timing of this research, to examine the identified quantitative relationship independent variables, correlated through regression analysis.

Business-to-business organizations are increasingly aware of the relationship-value context of their respective current and potential customers. The research, supported by the literature review, will test through the identified independent variables, B2B relationship-value drivers, and quantitative equity understanding.

Business entities do operate in market environments, local and global, influenced by the increased rate of change. The competitive advantage (Porter, 1985) extends to the organization's strategic cognizance, management, and measurement of quantitative relationship-value.

Macro-environmental norms of business exchange are in a seismic evolution (Davis, 2014), based on globalization and accelerated advancement and access to communication technology.

The rapid rate of process and recipient expectation transformation, in social and economic exchange transactions, is a crucial strategic matter for business entities.

CHAPTER 3: METHODOLOGY

Introduction

The chapter introduces the research methodology design and covers the research questions, hypothesis, participants, variables, measures, scale, data collection instruments, pilot test, analysis, reliability, validity, and limitations.

The measurement and strategic management of quantitative exchange or transaction value in organizations as an intangible asset or as intellectual property are increasingly recognized, measured, and protected. Quantitative relationship-value research is significant in the education of B2B leaders in an increasingly competitive, globalized transformational market.

The strategic alignment of relationship value is a key performance driver in the development of and, in some cases, the survival of tenured entities in the B2B environment, notably in developed markets typified by the United States.

The survey was designed for quantitative analysis of correlational and hierarchical relationships between the six independent variables: relationship performance and practice, relationship commitment, relationship trust, mutual cooperation and interaction, geographic proximity, and values congruence, and the dependent variable of customer satisfaction.

I designed the single-stage survey sampling based on the aspect of respecting the time access to my LinkedIn contact database and the intention to minimize business relationship disruption or distraction. These LinkedIn contacts reflect my relationship investment over many years. In my assessment and experience, it is essential to respect the time of these business professionals.

Distribution of the Survey Monkey electronic survey was managed through my LinkedIn account. Participant responses were directed to Survey Monkey. Participant confidentiality and

the researcher positionality controls are detailed in the survey participant invitation (Appendix A) and the external survey process (Appendix D).

Research Design

This study examined quantitative B2B relationship value in 2019 in the U.S. engineering design and manufacturing technology sectors. The timing, geographical, and industry differentials supported the value and purpose of the study. I designed the single-stage survey sampling based on the respect of real-time access to the business professional contact database and the intention to minimize relationship disruption or distraction.

I designed the survey to provide a quantitative exchange value analysis of relationships between the dependent and respective independent variables. The methodology to test the hypothesis was a moment-in-time quantitative, cross-sectional, non-experimental survey. I based the research on the B2B-RELPERF (Lages et al., 2005) completed in Portugal in 2005.

The survey (see Table 4) was adapted to include two additional independent variables: geographic proximity (GEO) and values congruence (VGR). The survey also included demographic control variables and accounted for the increased size of the North American market population and the impact of global inter-organizational communication technology process developed during the 14 years of 2005 to 2019. The survey is modeled on a Likert categorical 1–5 ordinal scale, treated as continuous for analysis, for each independent-variable question. The survey captured professional demographic and industry categorical and continuous-scale control variable information.

Table 4 *Customer Relationship Satisfaction Survey*

Scale: 1. Not Important; 2. Less Important; 3. Neutral; 4. Important; 5. Very Important		
SAT:	Satisfaction with the Relationship (Fornell, Johnson, Anderson, Cha & Bryant, 1996; Cannon & Perreault, 1999; Dovaliene, Masiulyte & Piligrimiene, 2015)	1 2 3 4 5
SAT1	We are satisfied with the suppliers	
SAT2	Our satisfaction as a customer is important to the suppliers	
SAT3	If we had to do it again, we would still choose to use the supplier	
RPP:	Performance and Practice (Lages, Lancastre, & Lages, 2005; Corsaro, 2008; Monteiro, 2015)	1 2 3 4 5
RPP1	Suppliers practice standard operating procedures (SOP)	
RPP2	Suppliers conformance of SOP's to our requirements	
RPP3	Suppliers practice corrective action operating procedures	
RCO:	Commitment (Lages, et. al., 2005; Reinartz and Kumar, 2005)	1 2 3 4 5
RCO1	Relationship with suppliers is long-term	
RCO2	Suppliers demonstrate a commitment to our organization	
RCO3	We have pride in being associated with a supplier that carries a high-technology image	
TRT:	Trust (Lages, et. al., 2005; Gounaris, 2005; Piricz, 2018)	1 2 3 4 5
TRT1	Suppliers are organizations to whom I give my confidence	
TRT2	Suppliers have high integrity	
TRT3	The suppliers give us reliable information and advice	
MCO:	Mutual Cooperation and Interaction (Lages et al., 2005; Sheppard, Kouyoumjian, Sarrazin, & Doe, 2018; Prahahlad & Ramaswamy, 2004; Dubois & Hakansson))	1 2 3 4 5
MCO1	Our organization and our suppliers regularly cooperate and interact	
MCO2	Suppliers cooperate in the development of products or services.	
MCO3	Suppliers proactively cooperate in shared-cost optimization	
GEO:	Geographic Proximity (Gallard & Torre, 2005; Omobhude & Chen, 2019; Lundberg, 2008)	1 2 3 4 5
GEO1	Supplier national proximity	
GEO2	Supplier regional proximity	
GEO3	Supplier local proximity (within 2-hours)	
VGR:	Values Congruence Alignment (Preziosi & Gooden, 2011; Heaps, 2001; Meglino, Ravlin, & Adkins, 1989)	1 2 3 4 5
VGR1	Supplier practices values that are important to our organization	
VGR2	Supplier practices values that are important to my professional and personal expectations	
VGR3	Values alignment have a positive influence on our innovation and process	

Research Questions and Hypotheses

The research questions (see Table 5) were designed to test for a positive relationship and hierarchical order between each of six independent variables and customer satisfaction (SAT).

Table 5 *Research Questions*

RQ1	Is there a positive relationship between each of the B2B relationship value dimensions (relationship performance and practice, relationship commitment, relationship trust, mutual cooperation and interaction, geographic proximity, and values congruence) and Customer Satisfaction (SAT), after controlling for characteristics of people and business?
RQ2	Which of the six B2B relationship value dimensions has the most significant influence on SAT?

The research examined participant demographics and business industry segmentation factors as categorical control variables. Based on the B2B-RELPERF scale (Lages et al., 2005), the research hypotheses (see Table 6) tested the quantitative directional correlation between the B2B supplier-customer dependent variable of SAT, and the relationship independent variables of policies and practice, commitment, trust, cooperation, geographic proximity, and values congruence.

Table 6 *Research Hypotheses*

H1	There will be a positive relationship between each of the six B2B relationship value dimensions and SAT, even after controlling for characteristics of people and business.
H2	Of the B2B relationship value dimensions, Relationship Performance and Practice (RPP) will have the most significant influence on SAT.

Hypothesis H1 (see Table 6) stated a positive directional relationship-value correlation between each independent variable and the dependent variable of SAT. The research hypothesis was modeled on one dependent continuous and six independent continuous variables.

The null or alternate hypothesis, through a pilot with B2B professionals, tested and affirmed that each independent variable did not correlate with relationship value. The p-value for the null hypothesis is 0.05. If the p-value were less than or equal to the alpha ($p < .05$), then the null hypothesis would be rejected.

Table 7 *Research Hypothesis H1 by Independent Variable*

Hypothesis	Variable
Dependent Variable	
DV	Relationship Satisfaction (Customer)
Independent Variables	
H1a	There is a positive correlation between relationship policies and the relationship satisfaction assessed by the recipient customer
H1b	There is a positive correlation between relationship commitment and the relationship satisfaction assessed by the recipient customer
H1c	There is a positive correlation between relationship trust and the relationship satisfaction assessed by the recipient customer
H1d	There is a positive correlation between mutual cooperation and the relationship satisfaction assessed by the recipient customer
H1e	There is a positive correlation between geographical proximity and the relationship satisfaction assessed by the recipient customer
H1f	There is a positive correlation between values congruence and the relationship value assessed by the recipient customer

Correlation analysis measured the continuous variables relationship strength and direction, of each of the six independent variables (see Table 7) to the dependent variable (SAT) (Pallant, 2016, Chapter 11). The correlation tested Hypothesis H1 to confirm that there is a

positive relationship between each of the six B2B relationship value dimensions and SAT, after controlling for characteristics of people and business.

Hierarchical multiple regression analysis can be used to test the predictive power of a set of variables and to assess the relative contribution of each variable (Pallant, 2016, Chapter 13). For this study, hierarchical multiple regression analysis was deployed in the prediction of a single dependent continuous variable from a group of independent continuous variables. Correctly, it was used in examining Hypothesis H2 (see Table 6), testing that of the six B2B relationship value dimensions, RPP will have the most significant influence on SAT.

Participants

The survey population reflected professional business exchange decision-makers and influencers in B2B manufacturing sectors of the United States and Canada.

I am the President and CEO of Phoenix Mecano Inc., Frederick, Maryland, established in 1981 to design and manufacture engineering products for North American business markets. Phoenix Mecano maintains a customer relationship database of approximately 27,000 B2B decision-making contacts, reflective of the designed research population. As the business leader, I have established an extended network of professional business contacts across the Phoenix Mecano and industry-related sectors. For access and efficiency, I chose my LinkedIn account as the source for the survey population. This professional network, connected to the Phoenix Mecano business Microsoft CRM system, is part of my personal LinkedIn account.

Sample Size Calculation (*n*)

The calculation of the sample size from the identified population was a crucial step in the research study. Sample size calculation was used to determine the adequate number of respondents to support a generalized finding or conclusion statement.

Defined criteria were required to determine the appropriate sample size. The calculation of the sample size (n) to support the accuracy of the research requires:

- population size (N)
- confidence level or margin of error (e)

The level of precision was an allowance for questionnaire answer error in the sample size and the total population. Cochran (1997) posited that the precision required might be confirmed by determining the number of errors tolerated in the sample. The general survey margin of error is 5.0% (0.05).

The research study employed the following simplified sample size calculator formula (Yamane, 1967; Israel, 1992). Table 11 presents the calculation inputs.

$$n = \frac{N}{1 + N(e)^2}$$

Table 8 *Simplified Sample Size Input Data*

Input	Value
Population size (N)	372
Margin of error (e)	0.05
Sample Size (n) =	190

The sample size calculator (see Table 8) equated to 190. The target population selected for the survey comprised 372 North American manufacturing B2B contacts in my LinkedIn account.

Variables

Dependent and Independent Variables

The dependent variable (DV) was defined as customer satisfaction (SAT) and classed as an indicator of a continuous positive or negative directional result. The independent variables, structured on a Likert continuous ordinal 1–5 scale, were Relationship Performance and Practice (RPP), Relationship Commitment (RCO), Relationship Trust (TRT), Mutual Cooperation (MCO), Geographic Proximity (GEO), and Values Congruence (VGR).

Control Variables

The research study integrated demographic categorical ordinal and nominal control variables (see Table 10). The control variables reflected the subgroups of the sample population with a variance-factor risk in the respective independent to the dependent variable relationship (Aguinis, 2004; MacKinnon, 2011).

Measures and Scales

The questionnaire consistency was measured through Cronbach's alpha to meet the 0.7 minimum threshold.

The sampling confidence level margin of error of 0.95 reflected the confidence that the population would select answers within a defined range.

The levels of measurement for each of the Likert scale-independent variable questions (see Table 9) were defined as categorical ordinal, treated as scale in a progressive low-to-high sequence to represent the order or rank of the respective response

Table 9 *Dependent and Independent Variables Questions*

Mean	Items
Question: Please indicate your level of agreement with the following statements:	
Customer Satisfaction (SAT) Mean	SAT1: We are satisfied with our suppliers SAT2: We believe that the suppliers care about our organization SAT3: If we had to do it again, we would still choose the same suppliers
Question: Please indicate the importance that you, as a customer, attached to the following characteristics/practices/abilities of your key suppliers:	
Relationship Performance and Practice (RPP) Mean	RPP1: Quality of standard operating procedures (SOP) RPP2: Conformance of SOP's to our requirements RPP3: Presence of systems in place for corrective actions
Relationship Commitment (RCO) Mean	RCO1: Long-term relationship orientation RCO2: Demonstrated commitment to our organization RCO3: Tech-savvy image
Relationship Trust (TRT) Mean	TRT1: High integrity TRT2: Confidence in partnership TRT3: Ability to provide reliable information/advice
Mutual Cooperation (MCO) Mean	MCO1: Frequency of interaction and cooperation MCO2: Cooperation in the development of products/services. MCO3: Cooperation in shared-cost optimization
Geographic Proximity (GEO) Mean	GEO1: National proximity GEO2: Regional proximity GEO3: Local proximity (within 2-hours)
Values Congruence (VGR) Mean	VGR1: Values congruence with respect to ethics and corporate responsibility VGR2: Values congruence with respect to innovation VGR3: Values congruence with respect to corporate culture

The demographic questions were a combination of categorical ordinal and categorical nominal questions, corresponding to the categorical ordinal and categorical nominal control demographic variables listed in Table 10.

Table 10 *Demographic and Organization Control Variables*

Demographic		
Age Group	Control Variable	Categorical Ordinal
Gender	Control Variable	Categorical Nominal
Education	Control Variable	Categorical Ordinal
Organization		
Organization Size	Control Variable	Categorical Ordinal
Length of Service	Control Variable	Categorical Ordinal
Job Classification	Control Variable	Categorical Ordinal
Industry Sector	Control Variable	Categorical Nominal

Data Collection Instruments

The single-stage sampling survey questionnaire distributed via the LinkedIn messaging system included an overview of the research objective and an invitation to request a copy of the final, approved research paper.

The interactive visual format of the questionnaire was designed for a computer screen and handheld device.

Completed surveys were transmitted directly to Survey Monkey, protecting participant confidentiality, and the survey data were transmitted from Survey Monkey to the Statistical Package for the Social Sciences (SPSS) for assessment.

Questionnaire Validation

The survey questionnaire was validated through a two-phase pilot group process, including feedback on question comprehension, subject matter relevance, ease, and time to complete.

Pilot Testing

The preliminary pilot group took the form of a one-on-one meeting with ten business professionals, who were invited to read the survey questionnaire and give their interpretation of each question. The qualitative objective of the preliminary pilot was to test the comprehension of each question. This phase did not test the quantitative assessment.

The second-phase pilot group comprised a business professional graduate MBA class at Hood College in Frederick, Maryland. The pilot simulated the distribution of the questionnaire and included electronically recording the quantitative feedback and then conducting a direct face-to-face verbal discussion on the questionnaire format, comprehension, construct, and consistency.

Data Analysis and Tool

Analysis of the research data followed the Laerd Statistical Test Selector (Laerd Statistics, 2019), outlined in Table 11.

Table 11 *Laerd Statistical Test Selector*

Question	Selection
i. Choose your study design?	Predictions and relations
ii. What type of dependent variable are you predicting?	Continuous
iii. How many independent variables do you have?	Two or more
Result: Hierarchical Multiple Regression	

Based on the responses to three questions, the selector identified hierarchical multiple regression as the appropriate statistical test to analyze the data. This method would establish whether there was a statistically significant relationship or association between each continuous-scale independent variable and the continuous-scale dependent variable.

Hierarchical multiple regression also was used to test any statistically significant variance in the dependent variable after accounting for all other variables. Hierarchical multiple regression helped in predicting the dependent variable variance effect of each additional independent variable.

The statistical analysis was processed using SPSS. As mentioned previously, the questionnaire responses transmitted directly from the Survey Monkey software to SPSS, mitigating the risk of a transfer error.

Reliability

The pilot testing process was designed to support the reliability of the survey by providing for a preliminary evaluation of cognizance, comprehension, and consistency.

The appropriate selection of the survey questions, the administration of the survey, the pilot test validation, the Likert scale format, and subsequent statistical method analysis were all contributing factors to the reliability of my research.

Validity

Validity was a crucial parameter in the research confidence. Research validity examined the degree to which the questionnaire as the survey instrument would provide an accurate measurement of the hypothesis statements.

For this study, the research validity is supported by the prior application (Lages et al., 2005) and findings of the B2B-RELPERF survey. The researchers (2005) acknowledged that additional tests in differing scenarios were recommended to support survey validation further.

Limitations

The survey was a single-stage, based on an efficiency and convenience rationale, conducted online over two weeks and is not longitudinal. The scope of the survey and findings

were managed to ensure external validity, avoiding the generalization of findings to the broader North American B2B markets. The sample group represented only a fraction of business entities within defined industrial segments.

The research questioned only the recipient (customer) in the supplier-customer dyad, giving rise to a one-sided relationship exchange assessment limitation. In an extended research paper, data could be obtained from the relationship perspective of both customers and suppliers.

The research examines the correlations between variables with cross-section data; causation cannot be confirmed.

There was a limitation, and validity risk, in the collection of data from the target group in that “many people do not know or cannot admit, even to themselves, what is important” (Hague & Hague, 2018). The questionnaire was designed on a Likert 1–5 scale. There could have been a risk of question contextual comprehension. Additionally, the survey had limited control over the visibility of the experience, bias, and subject comprehension of each candidate. The demographic questions could have been perceived as intrusive or private, which may have restricted or otherwise influenced the accuracy of responses. That said, the B2B-RELPERF survey has been validated in other studies, and the revised survey was piloted to support its construct validity.

The demographic questions could have been perceived as intrusive or private, which may have restricted or otherwise influenced the accuracy of responses.

Construct validity was a crucial factor in the research and hypothesis examination in the correlation of business value cognizance and financial success. The research was feasible based on ready access to a validated North American B2B database.

As the President and CEO of Phoenix Mecano Inc., I have directed administrative leaders to oversee internal control measures to limit my researcher positionality. The survey was administered through my LinkedIn professional network and Survey Monkey. Process and design controls were used to protect participant identity anonymity.

Researcher positionality and participant confidentiality processes were incorporated into the survey participant invitation (Appendix A) and the external survey process (Appendix D).

Conclusion

This chapter presented the research methodology designed on the quantitative research practice (Roberts & Hyatt, 2019), to examine the quantitative impact of identified independent variables in the B2B construct, relationship-value exchange customer satisfaction dependent variable.

The methodology designed and applied sought through the population to report validated findings, and recommendations, on the increasing business practice importance in the economic equity recognition and applied strategic actions in the context of B2B relationship value.

Chapter 4 presents the survey results and analysis. Chapter 5 presents the conclusions and implications of this research.

CHAPTER 4: RESULTS AND ANALYSIS

Introduction

Chapter 4 reports and analyzes the results of my research, reviewing the research questions, a summary of methods, including the measurement of the variables, internal reliability, and participant characteristics. Results include preliminary statistical analysis, hypothesis summary, and conclusions.

Quantitative relationship-value research is significant in the education of organizational B2B leaders in an increasingly competitive globalized transformational market and the quantitative equity-value realization of intangible assets. There is a lack of research in the field of B2B quantitative relationship-value. The purpose of this study was to examine and contribute to the knowledge of how B2B relationship exchange policies and practice, cooperation, trust, commitment, geographic proximity, and values congruence, affect customer-perceived relationship quantified-value satisfaction, after controlling for the characteristics of people and business.

Research Questions

I sought to answer two main questions in my research. The first one is about the influence of various characteristics on the B2B relationship, and the second one is about the relative importance of these characteristics.

My first research question is, “How do various characteristics, such as performance and practices, commitment, trust, cooperation and interaction, geographic proximity, and value congruence influence the relationship between businesses and their suppliers, after controlling for the characteristics of people and business?” I developed this research question into its parts to the following specific questions.

Research question 1 (RQ1) after controlling for the characteristics of people and business:

- RQ1a Is there a positive relationship between Relationship Performance and Practice (RPP) and Customer Satisfaction (SAT)?
- RQ1b Is there a positive relationship between Relationship Commitment (RCO) and Customer Satisfaction (SAT)?
- RQ1c Is there a positive relationship between Relationship Trust (TRT) and Customer Satisfaction (SAT)?
- RQ1d Is there a positive relationship between Mutual Cooperation and Interaction (MCO) and Customer Satisfaction (SAT)?
- RQ1e Is there a positive relationship between Geographic Proximity (GEO) and Customer Satisfaction (SAT)?
- RQ1f Is there a positive relationship between Values Congruence (VGR) and Customer Satisfaction (SAT)?

Research question 2 (RQ2) based on the strength of the literature review and research (Emerson, 1976; Cropanzano et al., 2005), indicating the primary relationship importance of customer exchange experience in supplier applied policies and practice (RPP), as the platform of trust (TRT).

- RQ2 Which of the six B2B relationship value dimensions has the most significant influence on Customer Satisfaction?

Summary of the Methods

The survey data was analyzed using correlational and hierarchical multiple regression to examine the relationships between the six independent variables: relationship performance and practice (RPP), relationship commitment (RCO), relationship trust (TRT), mutual cooperation

and interaction (MCO), geographic proximity (GEO), and values congruence (VGR) - and the dependent variable customer satisfaction (SAT).

The methodology to test the hypothesis was a moment in time quantitative cross-sectional non-experimental survey. The survey was divided into two sections. The first section consisted of twenty-one questions, the six independent variables, and the dependent variable, each designed as a 3-item, 5-point Likert scale. The Likert 1-5 ordinal scales were treated as continuous (Sullivan & Artino, 2013) (see Appendix B). The second section of the survey included seven questions examining participant professional demographic and industry categorical information (see Appendix C).

The single-stage survey sampling was designed based on the respect of time access to the business-related LinkedIn database and the intention to minimize actual business relationship disruption or distraction. The electronic survey distribution was administered in my professional LinkedIn account. The questionnaire and participant responses were managed in Survey Monkey. Participant confidentiality and the researcher positionality controls are detailed in the Questionnaire Invitation Communication (Appendix A) and the External Survey Process (Appendix D).

The pilot survey questionnaire was distributed to a class of eighteen master's in business administration (MBA) capstone students at Hood College, Frederick, MD. The pilot was conducted to test the validity, time to complete, common understanding, and interpretation of the questions. The survey was delivered to the pilot population, via email, in advance of a scheduled evening class, linked to the survey monkey questions, emulating the process of the main survey distribution. I attended, on October 28th, 2019, the capstone class after completion of the pilot to receive direct qualitative feedback on general comprehension.

Following the completion of the online survey, I took the opportunity to discuss the purpose of the study and the selected variables. In the discussion, the pilot group raised a question concerning the interpretation of the industry sector question in the demographic section. The demographic comment was reviewed with my Dissertation Committee Chair and considered not relevant for a change. Principal question comprehension related to the dependent and independent variables was confirmed.

Three hundred and seventy, B2B professionals from my professional LinkedIn account, identified to be operational in North American manufacturing sectors, received the questionnaire via the LinkedIn electronic message tool in December 2019. A total of 272 completed the survey, a 73.5% response rate. Of the completed survey responses, the question fulfillment rate was 97.4%. According to Survey Monkey, the time for survey completion averaged 4 minutes and 48 seconds. The data obtained was directly downloaded from Survey Monkey to SPSS for evaluation.

Data obtained from the main survey population, distributed and received in December 2019, was downloaded from Survey Monkey to SPSS for evaluation. In the initial process of data screening, there were no findings related to data outside the scale design parameters. There was no evidence of data that might have required a reversing process.

In the initial process of data screening, there were no findings related to data outside the scale design parameters. As there were no reverse coded questions, there was no need to engage in any reversing process. There was no evidence of data that might have required a reversing process.

The demographic control questions did have missing participant data (2.0%) in gender selection. Adjustments to the file were not possible or considered consequential in this factor as gender was not included in the final selected control reporting analysis.

The survey population (*n*) was adjusted to 263 participants (see Table 12) based on Cook’s Distance and Mahalanobis Index, addressing outliers, a reduction of nine original participants (3.31%).

Table 12 *Participant Statistics*

	Gender	Age	Education Level	Organization no of Persons Employed	Length of Service	Position: Job Level	Manufacturing Sector
Valid	259	263	263	262	261	263	262
Missing	4	0	0	1	2	0	1

The next section will discuss the measurement of the variables used in the study, followed by a discussion of the internal reliability of the measures

Measuring the Variables

Most of the independent and dependent variables used in this study were created from a modified version of the Business to Business Relationship Performance Scorecard index, B2B-RELPERF (Lages et al., 2005), including customer satisfaction (SAT), relationship performance and practice (RPP), relationship commitment (RCO), relationship trust (TRT), and mutual cooperation and interaction (MCO). My survey included two additional independent variables, geographic proximity (GEO) and values congruence (VGR). The measurement of variables in this section is presented in the sequential order of the survey questionnaire.

Relationship Performance and Practice (RPP), an independent variable, was measured using three questions from a previous study (Lages et al., 2005) measuring the customer

relationship with the supplier and adapted based on literature (Corsaro, 2008; Monteiro, 2015). The RPP questions (see Table 13) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of supplier standard operating procedures (SOP's) in the business relationship. The results were similar for all three questions, with a mean exceeding "4" (important). The highest result was with question 3, at a mean score of 4.362.

Table 13 *Survey Questions Relationship Performance and Practice (RPP)*

Survey Questions	n	Mean	SD
1. Quality of standard operating procedures (SOP)	263	4.146	.699
2. Conformance of SOP's to our requirements	263	4.135	.741
3. Presence of systems in place for corrective actions, if required	263	4.362	.621
RPPMean	263	4.210	.599

Relationship Commitment (RCO), an independent variable, was measured using three questions from a previous study (Lages et al., 2005) measuring the customer relationship with the supplier and adapted based on literature (Reinartz et al., 2005). The RCO questions (see Table 14) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of customer-supplier orientation, commitment, and brand image. Questions 4 and 5 reported a mean over "4" (important). Question 6 was notably lower, with a mean score of 3.700. RCO was retained in the study based on a significant correlation with each of the other independent variables detailed in the preliminary statistics section of chapter 4.

Table 14 *Survey Questions Relationship Commitment (RCO)*

Survey Questions	n	Mean	SD
4. Long-term relationship orientation	263	4.181	.787
5. Demonstrated commitment to our organization	263	4.308	.712
6. Tech-savvy image	263	3.700	1.113
RCOMean	263	4.060	.653

Relationship Trust (TRT), an independent variable, was measured using three questions from a previous study (Lages et al., 2005) measuring the customer relationship with the supplier and adapted based on literature (Gounaris, 2005; Piricz, 2018). The TRT questions (see Table 15) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of customer-supplier trust, confidence, and reliability in the business relationship. The three TRT questions reported in the range 4.408 to 4.508 between the Likert score “4” (important) and “5” (very important).

Table 15 *Survey Questions Relationship Trust (TRT)*

Survey Questions	n	Mean	SD
7. High integrity	263	4.508	.573
8. Confidence in partnership	263	4.408	.683
9. Ability to provide reliable information/advice	263	4.531	.624
TRTMean	263	4.484	.484

Mutual Cooperation and Interaction (MCO), an independent variable was measured using three questions from a previous study (Lages et al., 2005) measuring the customer relationship with the supplier and adapted based on literature (Sheppard et al., 2018; Prahahlad et al., 2004; Dubois et al., 2004). The MCO questions (see Table 16) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of constructs of cooperation in the business relationship. The MCO questions scored in the range 3.704 to 3.962, between “3” (moderately important) and “4” (important).

Table 16 *Survey Questions Mutual Cooperation and Interaction (MCO)*

Survey Questions	n	Mean	SD
10. Frequency of interaction and cooperation	263	3.704	.829
11. Cooperation in the development of products/services	263	3.985	.861
12. Cooperation in shared-cost optimization	263	3.962	.851
MCOMean	263	3.881	.684

Geographic proximity (GEO), an independent variable, was measured using three questions influenced by the literature review (Gallard et al., 2005; Omobhude et al., 2005; Lundberg, 2008). The GEO questions (see Table 17) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of relative geographic proximity (location) in the business relationship. The GEO questions were all in the close range to “3” (moderately important).

Table 17 *Survey Questions Geographic Proximity (GEO)*

Survey Questions	n	Mean	SD
13. National proximity	263	3.042	.939
14. Regional proximity	263	2.962	.958
15. Local proximity (within 2-hours)	263	2.892	1.134
GEOMean	263	2.958	.858

Values Congruence (VGR), an independent variable, was measured using three questions influenced on the literature review (Preziosi et al., 2011; Heaps, 2001; Meglino et al., 1989). The VGR questions (see Table 18) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of value alignment constructs, including ethics, innovation, and culture in the business relationship. The VGR questions scored in the range 3.581 to 4.008, between “3” (moderately important) and “4” (important).

Table 18 *Survey Questions Values Congruence (VGR)*

Survey Questions	n	Mean	SD
16. Values congruence with respect to ethics and corporate responsibility	263	4.008	.810
17. Values congruence with respect to innovation	263	3.785	.815
18. Values congruence with respect to corporate culture	263	3.581	.953
VGRMean	263	3.787	.745

Customer Satisfaction (SAT), the dependent variable was measured using three questions from a previous study (Lages et al., 2005) measuring the customer relationship with

the supplier and adapted based on literature (Fornell et al., 1996; Cannon et al., 1999; Dovaliene et al., 2015).

The SAT dependent variable questions (see Table 19) examined the perceived customer importance on a Likert 1-5 ascending continuous scale of customer satisfaction constructs in the business relationship. The SAT questions scored in the range 3.558 to 3.765, between “3” (moderately important) and “4” (important).

Table 19 *Survey Questions Customer Relationship Satisfaction (SAT)*

Survey Questions	N	Mean	SD
19. We are satisfied with the suppliers	263	3.765	.617
20. We believe that the suppliers care about our organization	263	3.727	.707
21. If we had to do it again, we would still choose to use the supplier	263	3.558	.736
SATMean	263	3.688	.605

Table 20 details the sequence of variables by name, type, level of measure, SPSS description, and survey question reference used in the multiple regression.

Table 20 *Summary of Variables Used for Multiple Regression Analysis*

Variable Name	Variable Type	Level of Measure	SPSS Description	Survey Questions
Relationship Performance and Practice (RPP)	Independent	Scale	RPPMean	No. 1-3
Relationship Commitment (RCO)	Independent	Scale	RCOMean	No. 4-6
Relationship Trust (TRT)	Independent	Scale	TRTMean	No. 7-9
Mutual Cooperation and Interaction (MCO)	Independent	Scale	MCOMean	No. 10-12
Geographic Proximity (GEO)	Independent	Scale	GEOMean	No. 13-15
Values Congruence (VGR)	Independent	Scale	VGRMean	No.16-18

Internal Reliability

Cronbach’s Alpha statistic was run on the survey data to assess the internal reliability of the independent and dependent variables. Cronbach’s alpha (α) is a measure of internal

consistency to test that the individual factors within the variables all measure the same thing. It is measured on a theoretical scale between 0 and 1. An acceptable Cronbach's alpha should ideally be above 0.7. A level above 0.8 is considered a good or a preferred measure (Pallant, 2016). Nunnally (1978) offered a rule of a 0.7 minimum threshold for an acceptable Cronbach's alpha. Hair, Black, Babib, Anderson, Tatham (2006) stated that a 0.6 minimum threshold to be acceptable.

Internal reliability analysis (see Table 21) reports the Cronbach's alpha effect concerning each of the six independent variable items, supporting that each item should be retained. Following the dependent variable SAT, the order of the independent variables in Table 21 is aligned with the sequence of the survey questionnaire. GEOMean, RPPMean, and TRTMean reported above the independent variable Cronbach's alpha average. VGRMean, MCOMean, and RCOMean reported below the average.

Table 21 *Internal Reliability of Variables*

Variable	N	Cronbach's Alpha
SATMean	263	.787
RPPMean	263	.727
RCOMean	263	.711
TRTMean	263	.724
MCOMean	263	.704
GEOMean	263	.745
VGRMean	263	.700
Independent Variable Average	263	.719

The survey reliability statistical analysis detailed in Table 22 reported an acceptable measure of scale reliability with an overall Cronbach's alpha measure at 0.873.

Table 22 *Internal Reliability of the Total Scale*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.873	.878	21

Characteristics of the participants

The demographic survey questions were designed to present participant characteristics for control variable assessment, including gender, age range, education, and details of professional employment, including current organization (employer) number of personnel, tenure length of service, position, and industry sector.

Respondents identified 75.0% as male (see Table 23). The gender imbalance was expected based on the targeted manufacturing sectors. This research has no longitudinal design, which over the years may have reflected a progressive rebalance in the male: female sector population ratio.

The age data was designed in the respective range groups. The range of age band dispersion (see Table 24) was relatively balanced in the 35-44; 45-54; and 55-64 groups, cumulatively accounting for 83.4% of the total participant population. This observation is noteworthy, as the age group was the only demographic control found to have significant predictive correlation and was selected in the final regression analysis.

The participants surveyed are business professionals, connected via LinkedIn to my network. I have selectively developed my professional network over 30-years. In recent years, I have invested in my LinkedIn social network, maintaining a selective criterion of approximately 800 global contacts.

As the President and CEO of a business organization, relative higher levels of education were anticipated. Participant education (see Table 25) reported 49.8% at a bachelor's degree level and 28.0% at a master's degree or higher level.

Table 23 Gender (n = 263)

Value	<i>N</i>	Percent
Male	201	75.0%
Female	61	22.8%
Other	2	0.7%
Missing	4	1.5%

Table 24 Age Range (n = 263)

Value	<i>N</i>	Percent
18-24 years	9	3.4%
25-34 years	34	12.9%
35-44 years	73	27.8%
45-54 years	78	29.7%
55-64 years	68	25.9%
65 plus years	1	0.4%

Table 25 Education Level (n = 263)

Value	<i>N</i>	Percent
High School	16	6.1%
Associate Degree	39	14.8%
Bachelor's degree	131	49.8%
Master's Degree	65	24.7%
PhD Doctoral	6	2.3%
Missing	6	2.3%

The analysis of participant organization employment provided indicative data of professional environmental variables, based on the size of the organization, years employed (tenure), relative professional position, and industry segment by North American Industry Classification (NAICS).

Organization size (see Table 26), measured by the number of employees, was dispersed through the range groupings. The leading group recorded 37.3% of participants within an immediate organization of 25-99 employees.

The length of service or tenure (see Table 27) within the current organization recorded 41.8% of participants in the 3-10-year service range. Hierarchical position data reported 44.9% of participants in the self-reported management category (see Table 28).

Table 26 *Organization: number of persons employed (n = 263)*

Value	N	Percent
1-9	21	8.0%
10-24	34	12.9%
25-99	98	37.3%
100-499	64	24.3%
500 plus	45	17.1%
Missing	1	0.4%

Table 27 *Tenure: current organization (n = 263)*

Value	N	Percent
Less than 3 years	76	28.9%
3 - 10 years	110	41.8%
More than 10 years	75	28.5%
Missing	2	0.8%

Table 28 *Position: current organization (n = 263)*

Value	N	Percent
Entry, Associate	82	31.2%
Management	118	44.9%
Director, Vice-President	35	13.3%
President, Owner	26	9.9%
Missing	2	0.8%

Organization manufacturing sectors (see Table 29), identified by NAICS categories, were dispersed across the twenty-sectors (see Appendix E), with no single sector exceeding 16.0%.

Following the survey completion, I determined, based on qualitative experience that the

manufacturing sector results did not apply to the regression analysis, based on the subjective selection factor. This quantitative research and survey design were unable to identify or correlate a business manufacturing sector influence in the dependent variable SAT. A review of the NAICS business sector as a relationship-value independent or control variable could be an opportunity for future research.

Table 29 *Manufacturing Sector Extract (n = 263)*

Value	N	Percent
Electrical Product, Appliance, and Component Manuf. NAICS 335	42	16.0%
Machinery Manufacturing NAICS 333	38	14.5%
Miscellaneous Manufacturing NAICS 339	35	13.4%
Computer and Electronic Product Manufacturing NAICS 334	29	11.1%
Fabricated Metal Product Manufacturing NAICS 332	18	6.9%
Distribution and Wholesale NAICS 423	18	6.9%
Plastics and Rubber Products Manufacturing NAICS 326	14	5.3%
Other (See Appendix F)	68	25.9%
Missing	1	0.4%

In summary, the average survey respondent can be identified as male, in the age range 45-54 years, and holding a bachelor’s degree. He is employed in a management position, has served 3-10 years in a business employing 25-99 people.

Preliminary Analysis

The results were organized and explained in the following process: descriptive statistics, data eligibility of multiple regression, preliminary statistical analysis, and hierarchical multiple regression. A summary is provided at the end of this section.

Descriptive Statistics

Descriptive statistics were run for each variable item group to identify minimum, maximum, mean, standard deviation, and range detailed in summary Table 30. The median is a

calculation of the central number in a series, included in Table 30 as an indicator. Still, it is not an absolute median, as each variable group is the mean of each item set.

Table 30 *Summary of Descriptive Statistics*

Variable	N	Range	Min.	Max.	Mean	Median	SD	Variance
SATMean	263	2.67	2.33	5.00	3.69	3.67	.61	.37
RPPMean	263	3.33	1.67	5.00	4.21	4.00	.60	.36
RCOMean	263	3.67	1.33	5.00	4.06	4.00	.65	.43
TRTMean	263	3.00	2.00	5.00	4.48	4.67	.49	.24
MCOMean	263	3.33	1.67	5.00	3.88	4.00	.68	.47
GEOMean	263	4.00	1.00	5.00	2.96	3.00	.86	.74
VGRMean	263	3.67	1.33	5.00	3.79	4.00	.75	.55

Data Eligibility for Multiple Regression

Multiple regression is an extension of simple linear regression used when predicting the value of the dependent variable based on the value of two or more other independent variables. It provides information on the total model and the unique level of relationship predictive variance of each independent variable to the dependent variable.

The process to predict the value of the dependent variable through multiple regression requires the confirmation of eight assumptions (see Table 31), including confirmation of a linear relationship between the dependent variable and the independent variables. Regression assumptions were met, with one non-serious violation (normality) and qualified.

Demographic control variables, gender, education level, number of employees, tenure, and position were tested in respective regression models with no significant positive relationship found. Age group was the only demographic control with a significant positive relationship.

Table 31 *Linear Regression Assumption Checklist*

Assumption	Finding
1 The dependent variable (DV) should be measured on a continuous scale.	Customer Satisfaction (DV) measured on a Likert scale which is deemed to be continuous
2 Two or more independent variables, which can be either continuous or categorical.	Six IV's measured on a Likert scale deemed to be continuous
3 Independence of observations (i.e., independence of residuals): Durbin-Watson statistic.	Confirmed: see Table 33
4 Data must not show multicollinearity, which occurs when you have two or more independent variables that are highly correlated with each other.	Confirmed: see Table 34
5 Data needs to show homoscedasticity.	Confirmed: see Figure 17
6 Linear relationship between the DV and each IV, and the DV and IV's collectively	Confirmed
7 Data needs to show normality	Not Confirmed: not a serious violation: see Table 35
8 No significant outliers, high leverage points, or highly influential points.	Confirmed

Response validity. The research survey analysis contained a total of 263 responses. This response rate (see Table 32) was acceptable based on the simplified sample size calculator formula (Yamane, 1967; Israel, 1992).

Table 32 *Simplified Sample Size Input Data*

Input	Value
Population size (N)	372
Margin of error (<i>e</i>)	0.05
Sample Size (<i>n</i>) =	190

Residuals are independent. The Durbin-Watson test is a measure of autocorrelation in residuals from the regression analysis, which can lead to underestimates of the standard error and can inaccurately cause predictors to be significant. The test reports a statistic, with a value from 0

to 4. A statistic in the range 0 - 2 confirms no autocorrelation. The Durbin Watson residual test in Table 33 supports that the assumption was met, the results all in the range 1.7 to 1.8, sufficiently independent and uncorrelated.

Table 33 *Durbin-Watson Residual Test*

Variable	RPPMean	RCOMean	TRTMean	MCOMean	GEOMean	VGRMean
Durbin-Watson	1.748	1.728	1.794	1.735	1.737	1.729

Multicollinearity occurs when you have two or more independent variables found to be highly correlated with each other, which would lead to problems with understanding which independent variable contributes to the variance explained in the dependent variable (Daoud, 2017).

Table 34 *Coefficients Collinearity Statistics*

Independent Variable	Collinearity Statistics	Collinearity Statistics VIF
	Tolerance	
RPPMean	.721	1.387
RCOMean	.580	1.724
TRTMean	.575	1.739
MCOMean	.593	1.685
GEOMean	.724	1.381
VGRMean	.578	1.729

Dependent Variable: SATMean

Multicollinearity was measured through the inspection of correlation coefficients (see Table 36) and tolerance VIF values (see Table 34). There was no evidence of multicollinearity as none of the independent variables have correlations greater than 0.7. Tolerance results are in the range of .593 to .724, higher than 0.1 minimum requirement to confirm no collinearity.

Homoscedasticity is an assumption of linear regression where the variances along the line remain similar as you move along the line. The residuals, which appear random, are

concentrated in a rectangular shape, concentrated around the center (see Figure 16).

Homoscedasticity was tested and consistent when evaluated by each of the six determinant independent variables (see Appendix G).

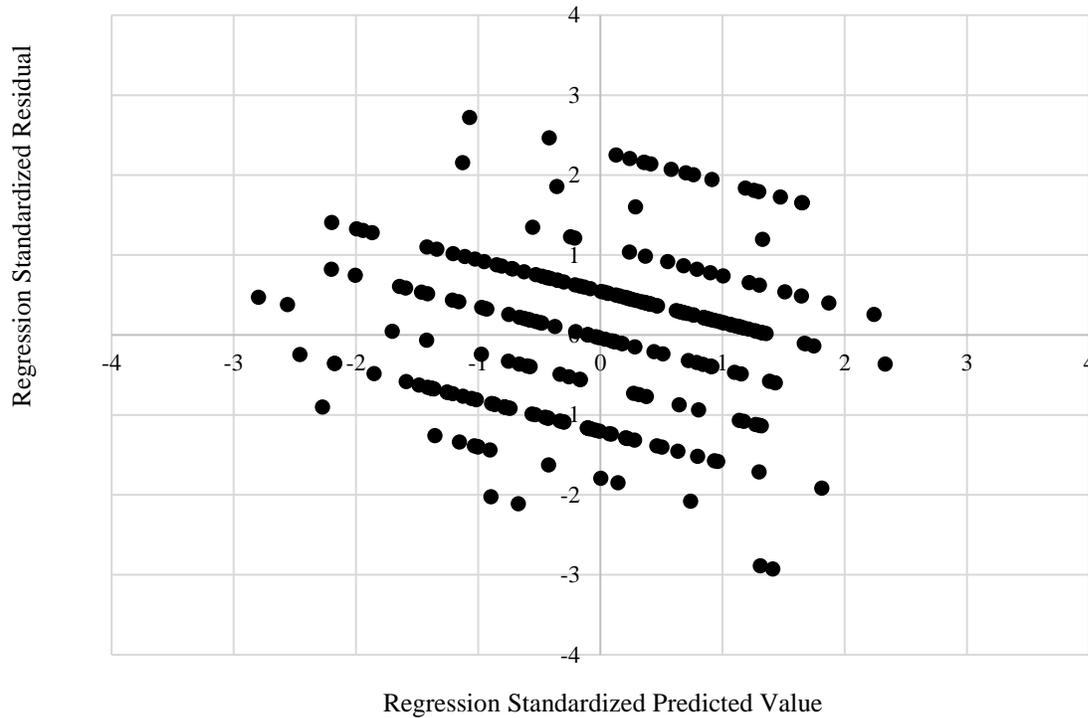


Figure 16 Scatterplot of Regression Standardized Residual and Predicted Value

Linearity was assessed using the scatterplot of regression standardized residual (see Figure 16) and predicted value plot (see Figure 17). The examination of the plots revealed evidence of a linear relationship (see Appendix F) of each independent variable (IV) with the dependent variable (DV).

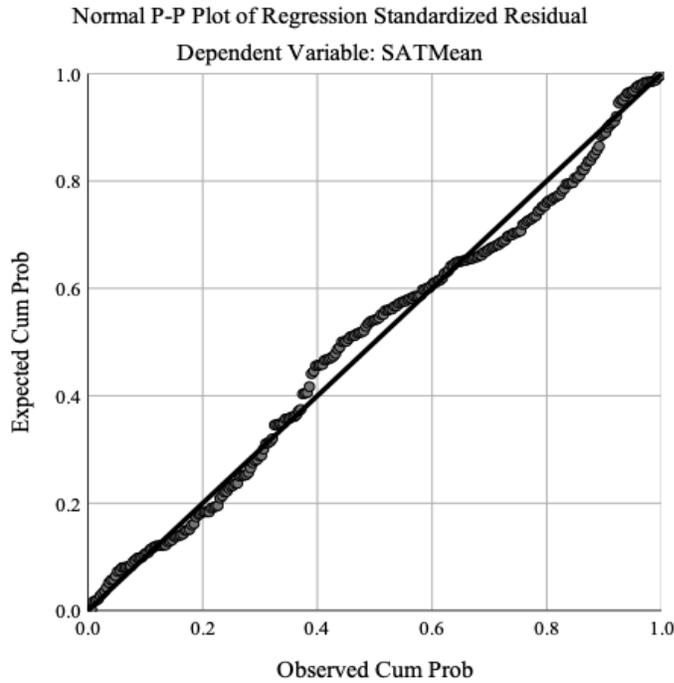


Figure 17 Plot of Regression Residual

Normality. The Kolmogorov-Smirnov test of normality, $D(263) = .168, p = <.001$ finding (see Table 35) technically does violate normality. The finding is not a serious violation, based on the central limit theorem (Le Cam, 1986) and the sample size (Cohen, 1992; Ferguson, 2009).

Table 35 Tests of Normality

	Kolmogorov-Smirnov ^a		
	Statistic	df	Sig.
SATMean	.168	263	.000

a. Lilliefors Significance Correction

Outlier analysis was conducted and determined not to impact the regression model adversely. The survey population was adjusted, removing nine original participants (3.31%) based on my assessment of probable extreme values, reviewing Cook's Distance and Mahalanobis Index data.

Preliminary Statistical Analysis

The preliminary statistical analysis completed a review of correlation measuring the strength and direction on the linear relationship between two variables, in value between -1 to 1. A positive number confirms a positive linear relationship between the two variables, and a negative number, the inverse.

The correlation analysis is shown in two tables, detailing the inter-item correlation (see Table 36) and zero-order, part and partial correlation (see Table 37).

Inter-item correlation displays how each item correlates to all of the other items. Relationship Trust (TRTMean) at $r = .269$, $n = 263$, $p \leq 0.001$ and Relationship Performance and Practices (RPPMean) at $r = .181$, $n = 263$, $p \leq 0.01$ report the strongest correlation and significance, with the dependent variable, customer satisfaction (SATMean).

Relationship Commitment (RCO) $r = .007$, $p > .05$, and Geographic Proximity (GEO) $r = .083$, $p > .05$ do not significantly correlate to customer satisfaction (SAT) but do correlate consistently and significantly with all other measures.

Table 36 *Inter-Item Correlation Coefficients*

	SATMean	RPPMean	RCOMean	TRTMean	MCOMean	GEOMean	VGRMean	Age Group
Pearson Correlation	SATMean							
	RPPMean	.181**						
	RCOMean	.007	.387***					
	TRTMean	.269***	.352***	.470***				
	MCOMean	.123*	.338***	.459***	.510***			
	GEOMean	.083	.285***	.384***	.152**	.390***		
	VGRMean	.090**	.425***	.482***	.421***	.470***	.408***	
	Age Group	.145**	-.070	-.095	-.003	-.159**	-.136*	-.110*

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq 0.001$

Age Group (AGE) $r = .145, p \leq .05$ is presented in Table 37 to demonstrate the significant correlation with the dependent variable (SAT). As detailed in this chapter, AGE was the only survey demographic control variable found to have a significant correlation with the DV.

In addition to the zero-order correlations, partial and part correlations are presented here as it is a multiple regression study. The zero-order correlation did not show hardly any correlation between RCO and GEO and SAT. Partial correlation, detailed in Table 37, is the correlation between an independent variable and a dependent variable after controlling for the influence of other variables on both the independent and the dependent variable. Part or semi partial correlation explains how one specific independent variable affects the dependent variable, while other variables are controlled to prevent them from getting in the way.

Table 37 Zero-Order, Partial and Part Correlation

Model		Correlation		
		Zero-order	Partial	Part
1	(Constant)			
	RPPMean	.181**	.132**	.124**
	RCOMean	.007	-.173	-.163
	TRTMean	.269***	.252**	.242**
	MCOMean	.123*	.009	.008
	GEOMean	.083	.095	.089
	VGRMean	.090**	-.026**	-.024**
	Age Group	.145***	.155***	.145***

a. Dependent Variable: SATMean

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq 0.001$

RCO has hardly any zero-order correlation with SAT; however, it does have significant correlations with other IV's. The part correlation is higher than the zero-order correlation, and the sign jumps from zero-order to partial and part correlations. This implies the presence of a

suppressor variable. This implication was validated when included in multiple regression, detailed in Chapter 4: Additional Findings.

Hypotheses

The research hypotheses were tested in two steps. **Hypotheses 1** (H1) tested the quantitative directional correlation between the B2B supplier-customer dependent variable of SAT and the relationship independent variables of policies and practice, commitment, trust, cooperation, geographic proximity, and values congruence; even after controlling for characteristics of people and business:

- H1a There will be a positive relationship between Relationship Performance and Practice (RPP) and Customer Satisfaction (SAT).
- H1b There will be a positive relationship between Relationship Commitment (RCO) and Customer Satisfaction (SAT).
- H1c There will be a positive relationship between Relationship Trust (TRT) and Customer Satisfaction (SAT).
- H1d There will be a positive relationship between Mutual Cooperation and Interaction (MCO) and Customer Satisfaction (SAT).
- H1e There will be a positive relationship between Geographic Proximity (GEO) and Customer Satisfaction (SAT).
- H1f There will be a positive relationship between Values Congruence (VGR) and Customer Satisfaction (SAT).

In the second step, the research **hypotheses 2** (H2) analyzed the hierarchical structure of the predictive influence of the independent variable to the dependent customer satisfaction variable. Hypothesis H2 is based on the strength of the literature review and research (Emerson, 1976; Cropanzano et al., 2005), indicating the relationship primary importance of customer

exchange experience in supplier applied policies and practice (RPP), which is the platform of trust (TRT).

H2 Of the six business-to-business (B2B) relationship value dimensions: Relationship Performance and Practices (RPP) will have the most significant influence on Customer Satisfaction.

Control Variables

Initially, gender, tenure, organization size, and age were used as control variables as the research sought to control the characteristics of people and business on the relationship between the six independent variables and customer satisfaction. So, the first order of business was to regress the effects of these demographic controls on SAT. This analysis found that only age was a significant predictor of SAT. Hence, the subsequent regressions included only age as a control variable. In other words, the initial control variables of gender, tenure, and organization size were removed from the primary multiple regression analyses given in the next sections.

Hypothesis 1: Multiple Regression

This research question and hypothesis, based on the six independent variables and the age range control variable, required multiple linear regression, used to predict the value of the dependent variable (SAT), based on the independent and control variables.

Table 38 reproduces the three correlations given in Table 36 so that these can be seen next to the unstandardized and standardized coefficients, t-and p-values, and variance inflation factor associated with the different variables.

For **hypothesis 1** multiple regression was run to test for a positive predictor of customer satisfaction (SATMean) from the six independent variables: relationship performance and practice (RPPMean), trust (TRTMean), mutual cooperation and interaction (MCOMean),

relationship commitment (RCOMean), geographic proximity (GEOMean), values congruence (VGRMean), and control variable: age (Age Group).

Table 38 details the standardized coefficients beta for each independent variable. The larger the beta, positive or negative, the stronger the contribution. TRTMean, at a beta of .309, is the strongest. The Sig. data reports the level of statistical significance in contribution. If the Sig. value is less than .05; the variable is making a significant unique contribution. RPPMean, TRTMean, RCOMean, and Age Group all reported significance.

Hypothesis H1a, the positive relationship between Relationship Performance and Practice (RPP) and Customer Satisfaction (SAT) was supported in a significant positive relationship found between relationship performance and customer satisfaction, Beta = .143, $t = 2.129$, $p \leq .05$.

Hypothesis H1b, the positive relationship between Relationship Commitment (RCO) and Customer Satisfaction (SAT) was not supported in that no significant positive relationship was found between relationship cooperation and customer satisfaction, Beta = -.209, $t = -2.807$, $p \leq .01$. Additional analysis on relationship cooperation (RCOMean) identified a **suppressor variable** influence found when an independent variable, not correlated with the dependent variable (SATMean), is correlated with the other independent variables. A suppressor variable is the correlation with another predictor, or predictors, but not the criterion or dependent variable (Ludlow & Klein, 2014). The RCOMean suppressor relationship is detailed further in Chapter 4 Additional Finding section.

Hypothesis H1c, the positive relationship between Relationship Trust (TRT) and Customer Satisfaction (SAT) was supported in a significant positive relationship found between relationship trust and customer satisfaction, Beta = .309, $t = 4.157$, $p \leq .001$.

Hypothesis H1d, the positive relationship between Mutual Cooperation and Interaction (MCO) and Customer Satisfaction (SAT) was not supported in that no significant positive relationship was found between mutual cooperation and interaction, and customer satisfaction, Beta = .011, $t = .143$, $p > .05$.

Hypothesis H1e, the positive relationship between Geographic Proximity (GEO) and Customer Satisfaction (SAT) was not supported in that no significant positive relationship was found between geographic proximity and customer satisfaction, Beta = .104, $t = 1.521$, $p > .05$.

Hypothesis H1f, the positive relationship between Values Congruence (VGR) and Customer Satisfaction (SAT) was not supported in that no significant positive relationship was found between values congruence and customer satisfaction, Beta = -.031, $t = -.418$, $p > .05$

The control variable age (Age Group) was processed, proposing a positive relationship to customer satisfaction. The additional control was supported in a significant positive relationship found between age group and customer satisfaction, Beta = .149, $t = 2.498$, $p \leq .05$.

Table 38 *Multiple Linear Regression Examining Predictors for Customer Satisfaction*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	VIF	Correlations		
		B	Std. Error	Beta				Zero-Order	Partial	Part
7	(Constant)	1.722	.380		4.528	.000				
	RPPMean	.145	.068	.143	2.129	.034*	1.333	.181	.132	.124
	TRTMean	.378	.091	.309	4.157	.000***	1.627	.269	.252	.242
	MCOMean	.010	.067	.011	.143	.886	1.700	.123	.009	.008
	RCOMean	-.193	.069	-.209	-2.807	.005**	1.632	.007	-.173	-.163
	GEOMean	.073	.048	.104	1.521	.129	1.378	.083	.095	.089
	VGRMean	-.025	.061	-.031	-.418	.676	1.647	.090	-.026	-.024
	Age Group	.080	.032	.149	2.498	.013*	1.044	.145	.155	.145

Dependent variable = Customer Satisfaction (SATMean)

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq 0.001$

Expanded full coefficients table (see Appendix I)

Hypothesis 2: Hierarchical Multiple Regression

Hierarchical multiple regression (HMR) determined the statistical significance proportion of variation in the dependent variable, customer satisfaction (SATMean), by the incremental addition of each independent variable and the control variable.

As the researcher, I determined the HMR analysis order that the variables were entered into the regression equation. The hierarchical incremental selection order of the HMR predictor variables was influenced by the findings of previous research (Lages et al., 2005), where the relationship policies and practice (RPP), and relationship trust (TRT) were leading predictors of customer satisfaction (SAT).

Hypothesis 2 processed full hierarchical multiple regression (see Table 39) for all 7 models, with the dependent variable customer satisfaction (SATMean), reporting 36.9% of variance: $F(1, 255) = 6.238$, $R^2 = .136$, adjusted $R^2 = .112$.

Mutual cooperation and interaction (MCO) and relationship commitment (RCO) were additional determinants of the 2005 research. This research is an original contribution based on the December 2019 survey of North American participants. The Lages et al. research (2005) was designed based on a one-customer, one-supplier assessment, in 2005, in Portugal. In contrast, my 2019 research, in North America, is based on an assessment of all suppliers, material, or non-material.

In addition to the Lages et al. research (2005), original relationship-value determinants were incorporated, geographic proximity (GEOMean) (Lundberg, 2005), and values congruence (VGR) (Chamberlain, 2014), based on the literature review.

Age (age group) as the demographic control variable was incorporated last in the hierarchical order. Additional survey demographic control variables were tested in regression

models but found to have limited to no predictive correlation. Age was the only control variable deemed to be statistically significant.

The full SPSS seven model HMR report is included in Appendix H, Table 49. HMR Model 7 is reported in Table 42.

The HMR output Model Summary (see Table 39) consists of the R-square output or the coefficient of determination, which evaluates the percentage of the dependent variable variation of each of the seven models. When the new model improves the prediction, the adjusted R-squared increases. The most crucial measure of hierarchical multiple regression is R^2 (“R square”), which represents the variation in the dependent variable by the model addition of each incremental independent and control variable.

Table 39 Model Summary

Model					Change Statistics				
	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.181 ^a	.033	.029	.596	.033	8.793	1	261	.003*
2	.284 ^b	.081	.074	.583	.048	13.586	1	260	.000***
3	.286 ^c	.082	.071	.583	.001	.348	1	259	.556
4	.329 ^d	.108	.094	.576	.026	7.559	1	258	.006*
5	.337 ^e	.114	.097	.575	.006	1.704	1	257	.193
6	.339 ^f	.115	.094	.576	.001	.247	1	256	.620
7	.369 ^g	.136	.112	.570	.021	6.238	1	255	.013*

a. Predictors: (Constant), RPPMean;

b. Predictors: (Constant), RPPMean, TRTMean;

c. Predictors: (Constant), RPPMean, TRTMean, MCOMean;

d. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean;

e. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean;

f. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean, VGRMean;

g. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean, VGRMean, Age Group

Dependent Variable: SATMean

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq 0.001$

The “R Square Change” reports the R^2 change from the previous HMR Model. The “Sig. F Change” contains the p-value significance of each Model incremental change. The significance level is the probability of rejecting the null hypothesis when it is true. A p-value equal to, or less than .05 indicates a 5%, or less, risk of incorrectly concluding incremental change and confirms significance.

The addition of each variable indicates an incremental R^2 increase, the R square change, in the dependent variable, detailed in Table 39. Model 1, predictor RPPMean, reported a significant R square at 3.3%. Model 2 incorporated the hierarchical predictor addition of TRTMean, reported a significant R square at 8.1%, R square Change at 4.8%. Model 3 incorporated the hierarchical predictor addition of MCOMean, reported a non-significant R square at 8.2%, R square Change at 0.1%. Model 4 incorporated the hierarchical predictor addition of RCOMean, reported a significant R square at 10.8%, R square Change at 2.6%. Model 5 incorporated the hierarchical predictor addition of GEOMean, reported a non-significant R square at 11.4%, R square Change at 0.6%. Model 6 incorporated the hierarchical predictor addition of VGRMean, reported a non-significant R square at 11.5%, R square Change at 0.1%. The final model, Model 7, incorporated the hierarchical predictor addition of the control variable, Age Group, reported a significant R square at 13.6%, R square Change at 2.1%.

Additional Finding

Additional analysis on relationship cooperation (RCOMean) identified a **suppressor variable** influence found when an independent variable, not correlated with the dependent variable (SATMean), is correlated with the other independent variables.

A suppressor variable is the correlation with another predictor, or predictors, but not the criterion or dependent variable (Ludlow & Klein, 2014). Although a suppressor and a dependent

variable have a zero correlation, the prediction in the outcome variable increases when a suppressor variable is added to the equation, because the suppressor variable, correlated with another predictor or predictors, that is correlated with the outcome dependent variable (Pandey & Elliot, 2010).

Given that RCO acted as a suppressor in my analysis, I explored this variable further. Given below are the steps that I engaged in to do this.

First, I examined the underlying structure of this variable by analyzing the items that comprised it. An examination of the underlying factor structure of RCO revealed that it is comprised of the following three variables, as described earlier - “long-term relationship orientation,” “demonstrated commitment to our organization, and “tech-savvy image.” With the luxury of hindsight, I thought that these three statements are more outcome-oriented than the statements that underlie my other independent variables. Hence, I thought RCO might act as a mediator between other independent variables and SAT. Second, I ruled it out as a mediator. I used Andrew Hayes’ PROCESS (Hayes, 2020) to evaluate the role of RCO as a mediator and found that it was not acting as one.

Third, I examined the underlying item structure of SAT and RCO variables side by side. Table 40 shows this comparison. Given that my SAT questions are about a generic supplier and not about a specific supplier and the outcome-orientation of the RCO variables described above, I thought that in my case, RCO was a better indicator of satisfaction rather than the general SAT questions that I asked. So, I explored this.

As noted earlier, RCO had a strong correlation with other independent variables. Figure 18 illustrates the comparative relative correlation strength of RCOMean with all the other independent variables, RPPMean, TRTMean, MCOMean, GEOMean, and VGRMean. I

observed that the additional independent variables, geographic proximity, and values congruence both had a significant correlation to RCOMean.

Table 40 *A Comparison of the SAT and RCO Items Side-by-Side*

Customer Satisfaction (SAT)	Mean	Relationship Commitment (RCO)	Mean
We are satisfied with the suppliers	3.765	Long-term relationship orientation	4.181
We believe that the suppliers care about our organization	3.727	Demonstrated commitment to our organization	4.308
If we had to do it again, we would still choose to use the supplier	3.558	Tech-savvy image	3.700
SATMean	3.688	RCOMean	4.060

Fourth, I regressed the other independent variable on RCO instead of SAT. Model summary Table 41 illustrated the strength of the correlation when RCO programmed as the dependent variable $R = .622$. Table 42 confirmed the significance.

Table 41 *Model Table RCO DV*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.622 ^a	.387	.373	.51745

a. Predictors: (Constant), Age Group, TRTMean, GEOMean, RPPMean, VGRMean, MCOMean

Table 42 *ANOVA RCO DV*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.306	6	7.218	26.956	.000 ^b
	Residual	68.546	256	.268		
	Total	111.852	262			

a. Dependent Variable: RCOMean

b. Predictors: (Constant), Age Group, TRTMean, GEOMean, RPPMean, VGRMean, MCOMean

Table 43 reports the comparative strength of correlation between this research dependent variable, SATMean, and the independent variables, and the suppressor variable RCOMean and

the independent variables. In the RCOMean suppressor scenario, all five independent variables: RPPMean, TRTMean, MCOMean, GEOMean, and VGRMean, have a positive correlation and are all significant. Note that the control variable Age Group is not significant. Suppressor variable RCOMean is detailed further in Chapter 5 Conclusion and Implications.

Table 43 *Coefficients RCO: SAT Comparison*

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
Dependent	(Constant)	.526	.344		1.530	.127
Variable:	RPPMean	.132	.061	.121	2.158	.032*
RCOMean	TRTMean	.340	.080	.257	4.260	.000***
	MCOMean	.120	.060	.126	1.983	.048*
	GEOMean	.139	.043	.182	3.233	.001**
	VGRMean	.164	.054	.187	3.034	.003**
	Age Group	-.012	.029	-.020	-.402	.688
Dependent	(Constant)	1.722	.380		4.528	.000
Variable:	RPPMean	.145	.068	.143	2.129	.034*
SATMean	TRTMean	.378	.091	.309	4.157	.000***
	MCOMean	.010	.067	.011	.143	.886
	RCOMean	-.193	.069	-.209	-2.807	.005**
	GEOMean	.073	.048	.104	1.521	.129
	VGRMean	-.025	.061	-.031	-.418	.676
	Age Group	.080	.032	.149	2.498	.013*

Note: * $p \leq .05$, ** $p \leq .01$, *** $p \leq 0.001$

The RCO suppressor variable finding is of interest to this research subject matter, the determinants of B2B relationship-value. RCO survey questions examined “long-term relationship orientation” and “demonstrated commitment to our organization.” Figure 18 illustrates the comparative relative correlation strength of RCOMean with all the other independent variables, RPPMean, TRTMean, MCOMean, GEOMean, and VGRMean. I

observed that the additional independent variables, geographic proximity, and values congruence both had a significant correlation to RCOMean.

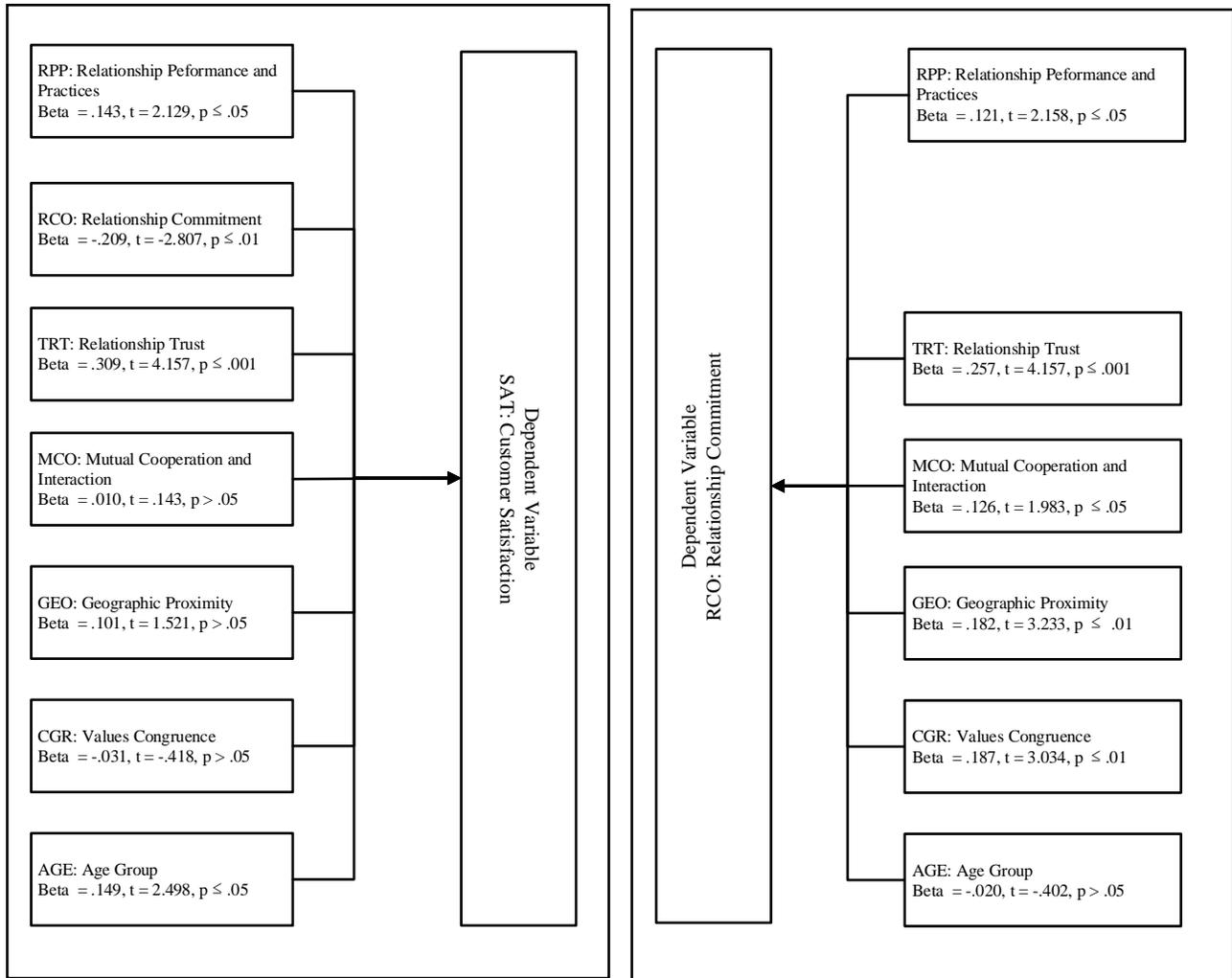


Figure 18 Relationship Commitment DV Correlation

Conclusions

Hypothesis H1 proposed a positive relationship with each of the six determinant independent variables, to the dependent variable, customer satisfaction (SATMean).

The study data identified that relationship policies and practice (RPP) at .143, trust (TRT) at .309, and the control variable age (age group) at .149, as significant positive exchange-value

determinants, on the part of customer perception, to the dependent variable customer satisfaction (SATMean).

Mutual cooperation and interaction (MCO) at .011 and geographic proximity (GEO) at .104 had nominal non-significant positive predictive power, to the dependent variable customer satisfaction (SATMean). Values congruence (VGR) at -.031 had a nominal non-significant negative predictive power, to the dependent variable customer satisfaction (SATMean).

Relationship commitment (RCO) at -.209 had a significant negative predictive power, to the dependent variable customer satisfaction (SATMean). RCO was found to be a suppressor variable (Pandey & Elliott, 2010), correlating with all the other independent variables, and the control variable, age group

Table 44 *Hypotheses Summary*

Hypotheses Reference	Hypothesis Results	Statistical Significance
H1a Relationship Performance and Practice (RPP)	Positive	Yes
H1b Relationship Commitment (RCO)	Negative	Yes
H1c Relationship Trust (TRT)	Positive	Yes
H1d Mutual Cooperation and Interaction (MCO)	Positive	No
H1e Geographic Proximity (GEO)	Positive	No
H1f Values Congruence (VGR)	Negative	No

Hypothesis H2 had proposed that relationship performance and practice (RPP), would be the primary independent variable.

Hierarchical multiple regression analysis of the survey data found that the perceived importance of trust (TRT), was the primary determinant of customer satisfaction (SAT).

Relationship performance and practice (RPP) was the second hierarchical level dependent variable determinant.

The hypothesis findings correlate with the previous survey identifying that B2B relationships are “significantly associated with loyalty” (Lages et al., 2005). Perceived relationship-value determinants and hierarchical importance are based on expectation and experience alignment and are influenced by significance and timing.

Relationship performance and practices (RPP) survey questions were designed to examine the reliability and consistency, value quantitative determinant assessment of the customer-supplier exchange experience. The assessment as to why relationship trust (TRT) and the expectation determinants of trust, are further detailed in Chapter 5.

Additional qualitative and quantitative research into the determinants and sub-determinants of the identified independent and control variable influence in the perceived relationship-value determinants would be of incremental contextual value.

CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

Introduction

This chapter includes a discussion of the findings as well as theoretical and practical implications arising from this research. Research findings and original contributions articulated in the literature review are used to support the study results and additional knowledge to the quantitative determinant factors of business-to-business (B2B) relationship exchange. Limitations of the study, including the lack of generalizability, are discussed, including recommendations for related further research.

Summary of the Study

This research study in the field of B2B quantitative relationship exchange value is constructed on the foundation of business purpose (Drucker, 1954) and exchange theory (Homans, 1958). Customer satisfaction value determinants of non-material exchange, strategic relationship process management, and intangible asset recognition are crucial, especially in an increasingly competitive global business environment.

My research methodology was designed and founded on quantitative research practice (Roberts & Hyatt, 2019). I examined the quantitative impact of identified independent variables in the B2B construct, using relationship-value exchange customer satisfaction as the dependent variable. The applied methodology seeks to report validated findings, and recommendations, on the increased business practice importance of B2B relationship-value equity and strategic action in non-material exchange.

Hierarchical multiple regression, used in this study, analyzed the relationships between the six independent variables: relationship performance and practice (RPP), relationship commitment (RCO), relationship trust (TRT), mutual cooperation and interaction (MCO),

geographic proximity (GEO), and values congruence (VGR) - and the dependent variable customer satisfaction (SAT).

This research survey was completed in December 2019 by 272 North American business professionals. The results suggest that relationship experience and expectation, as intangible determinants, do contribute to customer-perceived satisfaction value, in the supplier-customer exchange. The study data indicate that trust (TRT) is the leading positive exchange-value determinant, on the part of the customer. Policies and practice (RPP) and the control variable age (age group), were also identified as significant positive exchange-value determinants.

The data suggested that relationship commitment (RCO), mutual cooperation and interaction (MCO), geographic proximity (GEO), and values congruence (VGR) had zero to nominal predictive power.

Discussion

The construct of a quantitative measurement of the supplier-customer relationship exchange-value process is in relative infancy in the business-to-business (B2B) sector when compared to business-to-consumer (B2C). The optimized embedded strategic management of customer satisfaction determinants in the B2C environment is a proven global relationship-equity differentiator of competitive success (Porter, 2008).

The necessity for suppliers to understand consumer purchase determinants is accelerated by the global competitive open-market landscape, influenced by online retail (Binder & Hanssens, 2015). Customers in the B2C sectors, progressively transfer tangible and intangible exchange-value determinant experience, to expectations in their professional B2B transactions (Monteiro, 2015; Gil-Saura, Frasquet-Deltoro, & Cervera-Taulet, 2009; Piricz, 2018).

Relationship-value, B2C, and B2B can be increased and diminished as a result of either tangible or intangible exchange actions, between the respective individuals, or groups (Corsaro, 2008).

This research study highlighted relationship trust (TRT) as the leading determinant of customer satisfaction (SAT). The understanding of relationship trust and the determinants of trust are essential in the review of this research study, and to assess why participants ranked trust, ahead of relationship policies and practice (RPP).

Relationship trust is based on the reliance that the exchange party will deliver the expected service or product based on past-experience, assessment, and the mediating perception of future expectations (Poppo et al., 2008). As the supplier-customer relationship in B2B markets evolves, the “customer journey” (Lotz et al., 2018), requires a mutual process of relationship development, management, and commitment to obtain the best value from these relationships (Ford, 2002; Gounaris, 2005). The foundational development of relational trust is a progressive journey and is not by necessity, symmetrical between parties (Piricz, 2018).

Organization embedded policies and practices are the foundation of a positive quantitative and qualitative business relationship. The crucial parameter in the development of relationship trust is time and exchange experience. In my 30-years of B2B experience, relationship trust (TRT) is developed, is nurtured based on supplier-customer dyadic process alignment, founded on consistent positive exchange experience. Business relationship, mutual cooperation (MCO), or collaboration, in my experience, is built on the foundation of trust.

Relationship Commitment (RCO) as a suppressor variable is a crucial research finding, highlighting the relationship-value importance of commitment, on the part of the customer. The RCO importance is a crucial quantitative finding of this research, central to the supplier in strategic relationship-value management, and warrants further research.

Limitations

In the process of quantitatively measuring perceived value determinants through an online survey, there are limitations. The survey was a single-stage, convenience sample, conducted online over two weeks, in December 2019, and was not longitudinal. The sample group (n = 263) represented only a fraction of business professionals, within the defined North American B2B industrial segment population.

The research questioned only the recipient (customer) in the supplier-customer dyad, a one-sided exchange assessment limitation. In an extended research paper, data obtained from the relationship perspective of both parties, customers, and suppliers, would add value to the B2B dyadic exchange construct.

There was a limitation, and validity risk in the collection of data from the target group in that “many people do not know or cannot admit, even to themselves, what is important” (Hague & Hague, 2018). There was a risk of question contextual comprehension. The survey had limited control of visibility into experience, bias, or subject comprehension of each candidate. Construct validity was a crucial factor in the research and hypothesis examination in the correlation of business value cognizance and financial success.

My research may have a limitation risk through social desirability bias (Grimm, 2010). Research subjects or participants connected to me via my professional LinkedIn network may have given socially desirable responses instead of choosing responses that were reflective of their actual perception. Common method bias (CMB) or common method variance (CMV), can occur when variation in responses is caused by the research instrument, in this case, Survey Monkey, rather than the actual predispositions of the respondents that the instrument attempts to uncover (MacKenzie & Podsakoff, 2012).

As the researcher, I could not control the environment where the respondents provide answers to the questions in the survey (Baxter 2008). Responses often depend on a particular time, which again is dependent on the conditions occurring during that particular time frame.

My quantitative research method involved a structured questionnaire with close-ended questions. The respondents had limited response options based on the selection I had designed. In quantitative research, despite the application of an appropriate sampling plan, the representation of the population is dependent on the probability distribution of observed data.

The research I designed, questioned the customer to generic supplier relationship assessment. Previous research (Lages et al., 2005) had questioned the specified one-to-one customer-supplier relationship satisfaction. Business professionals are familiar with “satisfaction surveys” directed towards open-ended qualitative statements.

My research directed specified quantitative item determinants, in the context of relationship satisfaction. The results of the research indicate that relationship commitment (RCO) may be the optimal customer-supplier exchange-value objective, as opposed to satisfaction (SAT).

Practical Limitations

Survey population engagement and response proved to be the practical limitation in the convenience sample research. In my experience, based on perceived time and privacy, general reluctance by people to consider online surveys is an increasingly practical research limitation. This limitation was partially mitigated through the professional LinkedIn business network that I invest in and maintain.

Access to younger business professionals, was a practical survey limitation, reflected in my LinkedIn database. The age range dispersion in the three sub-groups 35-44 years at 27.8%,

46-55 years at 29.7%, and 55-64 years at 25.9% was relatively even. In contrast, the participant proportion in the 24-35-year range was only 12.9% (see Table 19).

My research was limited in the identification of business industry sectors. The data analysis by NAICS sectors (see Table 23) was not indicative of correlation. The selection of “other” at 25.9% and “miscellaneous” at 13.9% may have been quantitative indicators of a limitation in the NAICS Manufacturing sector selection.

My research survey did not assess the effects of B2B relationship longevity, any dyadic contractual agreement, or tangible financial inter-dependency determinants, potentially influencing the customer perception of intangible non-material relationship value.

Research Comparison

My research design and findings are a developed adaption of the previous research “Bringing Relationship Marketing Theory into B2B Practice: The B2B-RP Scale and the B2B-RELPERF Scorecard” (Lages et al., 2005).

The previous research was directed to a specified unique key account relationship, as opposed to my research examining a broader relationship-value assessment. The 2005 research categorized relationship performance as the dependent variable. Customer satisfaction was classified as an independent variable. The previous researchers identified their objective to qualify the importance in the development of “tools to assess the performance of a relationship between two firms” (Lages et al., 2005), as opposed to the specific relationship determinant results of the tool, adapted and identified in my research.

The researchers (Lages et al., 2005) did report implications that do correlate to my research. They had recommended further research into “relationship loyalty antecedents and

consequences” and international determinant variances “affected by social, cultural, and other environmental differences.”

Theoretical Implications and Future Research Opportunities

The research sought to correlate perceived relationship exchange variables to a business asset value through a quantitative survey. An extension of the research construct through a process of qualitative interviews may provide additional insight into the relationship value determinants.

Relationship trust was identified as a significant customer satisfaction determinant. In a qualitative process, the sub-determinants of trust could be examined. Trust, in the professional environment, is, in my experience, influenced by dyadic exchange experience and expectation alignment. In cases where the supplier is not meeting customer expectations, dyadic relationship trust is not evident, discounting relationship asset value. Future research could assess the practiced measurement process of B2B relationship-value.

Qualitative research would provide the opportunity to further research demographic influence on relationship-value determinants. My quantitative research supported the correlation of age to customer relationship satisfaction. Direct interviews and focus groups would allow the opportunity to expand generational relationship-value determinants.

This research examined a professional B2B population located in the United States, Canada, and Mexico. Expanded research to evaluate global and cross-cultural B2B relationship-value determinants, is recommended. Location and geographic proximity may prove to have a more significant correlation when examining a global population.

This research analyzed B2B relationship-value determinants external to each organization. Future research could examine relationship-value (RV) determinants internal,

within an actual organization. Business relationships, internal and external, are also influenced by contractual or agency agreements. The business strategy could be a moderating variable in relationship-value. Structure of organizations, for example, centralized or decentralized, can be an environmental influence in relationship expectations. The scale, magnitude, dependence, or longevity of a business relationship would be a notable influence in a business relationship, that in practice, can be positive or negative (Monteiro, 2015).

It is reasonable to suggest that the sector environment influences business relationship expectations and practices. In this research survey analysis, I was unable to correlate a significant correlation by the NAICS industry code sectors. Future investigation into specific business industry sectors, national and global, could provide insight into comparative or benchmark variance in relationship-value determinants.

Training and education, in the specific context of relational business management, and the cognizance of intangible value, would be a sequential development of this research. This process would require a qualitative or mixed-methods interview approach. In the organization that I currently lead, we train our personnel in best-practice relationship procedures, to optimize our invested economic value return, through all customer exchange touchpoints. Procedures are the platform; however, we have learned the importance of communicating and developing cognizance of why B2B relationships are crucial to our competitive positioning.

The relationship-value variables designed in this research cannot cover all determinants. The number of additional determinants would be extensive and within each determinant, tiered sub-levels. Further review of the literature and qualitative research of B2B professionals would expand the knowledge of variables. This process would, through a longitudinal design, in this

rapid period of global and technological development, provide indicators of emerging relations-value determinants.

Coronavirus Disease 2019 (COVID-19)

This December 2019 research survey was completed in advance of a potential COVID-19 pandemic global social-economic business relationship influence. The impact of this crisis is tangible to business organizations and personnel across all sectors.

Companies face vital decisions on the economic viability of entities, the continued employment of personnel, and the assessment of continued stakeholder engagement or disengagement of business-to-business customer-supplier relationships. The value-determinants of business relationships, ethical values, and proximity should all be in the review, in the immediate and post-COVID environment.

The European Center for Constitutional (Gijsbertsen, R., 2020) published a position paper drawing attention to the business challenge and human impacts of “responsible relationship disengagement in the time of corona.” The paper proposed a reassessment of global business ethics, highlighting interdependency and the need to protect the vulnerable. “Always remember that the most important thing in a good relationship is not happiness, but stability” (Márquez G., & Grossman, E., 2016).

Global business organizations recognize “The Competitive Advantage of Nations” (Porter, 1988) in strategic planning, including stakeholder relationships. Porter identified “chance” as the likelihood of external events that negatively affect or benefit a country or industry.

The Coronavirus COVID-19 pandemic and the related economic constraints, present future research opportunities, examining relationship variables, and longitudinal influence, prior,

during, and post the event. The relative relationship value correlation of variables, including; trust (TRT) and geographic proximity (GEO), can be hypothesized to have increased.

Professional Experience

The development of customer relationship management (CRM) software and embedded policies, in B2B organizations, provides a structured platform for assessment and action, based on relationship-value determinants. CRM, when designed correctly, compiles data from a range of supplier-customer communication touchpoints, including in-person, telephone, email, website, live chat, and social media, and provides integrated, data-driven software solutions that improve customer interaction exchange-value.

CRM optimization, in my B2B experience, is inconsistent. The opportunity to measure and maximize all market communication interaction indicators is too often not realized. Business leaders fail to differentiate between a reactive customer contact database and a proactive, business influencing, relationship management platform. Business leadership customer journey and business relationship-value (BRV) are crucial competitive strategic differentiators in optimized two-way business exchange.

Conclusions

I have been working in the field and researching business relationship value for over 20-years. I witness rapid globalization and competitive threat. My professional background is in the global technology sectors. Traditionally a tangible product business.

In 2004, I completed my MBA Dissertation, “The Dynamics of Long-Term Relationships in the Business-to-Business (B2B) Environment” (Brown, 2004), proposing the correlation between long-term business relationships and financial success. In 2020, this research study

incrementally contributes to the range of exchange determinants that correlate to directional, positive or negative, business relationships, in an increasingly globally competitive market.

The economic and social value contribution of manufacturing business entities to the United States, is substantial, employing 6 million people (U.S. Census Bureau, 2020). Research and business practitioner education, correlating quantitative and qualitative relationship-value determinants, and related intangible asset (financial) measurement, is crucial to maintain and develop a global competitive advantage.

Business-to-business relationships, traditionally based on a material tangible product or service, are trending, based on competitive outsourcing trends, to a customer expectation of incremental intangible service. Innovative B2B companies invest in innovation and intangible assets (Govindarajan, V., Lev, B., Srivastava, A., & Enache, L., 2019), including relationship-value determinants, at an increasing pace, establishing a crucial differentiated competitive advantage in global markets.

As a professional implication, my research seems to indicate that it is essential for business organizations to be attentive to the exchange-determinants of business relationship-value (BRV). In my experience, business leaders readily recognize a competitive advantage, or weakness, in the context of tangibles, including product and service. The intangible RV determinants identified in my research present opportunities to enhance business strengths and opportunities and address weaknesses and threats.

The relationship commitment (RCO) suppressor finding is of interest to me in the next stage of my professional attention in the B2B relationship-value context. Extensive research into the determinants of RCO, the quantitative and qualitative value assessments, and best-practice application will be in my future academic-practitioner plan.

As an experienced organization leader in North America and global B2B markets, reflective of the research survey participant population, I remain committed to strategic initiatives, intelligence, and agile business improvement. Responsible business organizations do not “lie at anchor” (Holmes, O. W., 1895). I can attest that the financial returns are evident today on invested, developed, and managed business relationships.

I intend to publish the findings of this research and present it at business leadership conferences and events. I have an extensive global professional network, informed of the purpose of this research. Academic research and practitioner communication and application are crucial to my objectives. The education of current and future business leaders is central to my career planning. Leaders, equity holding or custodian, have a vested duty to all organization stakeholders to optimize all business value assets, material, and non-material, including customer-relationships. Research, communication, innovation, investment, and leadership in the optimization of professional business-to-business relationships, internal and external to the organization, as a non-material intangible intellectual property asset, is a crucial competitive business determinant.

APPENDIX

Appendix A: Questionnaire Invitation Communication

Dear Participant,

Doctoral Research Survey: Business Relationship-Value

My name is Philip Brown, and I am inviting you to participate in this research study by completing the attached survey. The online questionnaire will require approximately 10-minutes to complete, on a computer or held-held device. There is no compensation for responding, nor is there any known risk. Phoenix Mecano Inc., have agreed to partner and support this anonymous business research initiative. The survey is not related to or reflective of any specific business relationship you have with the Phoenix Mecano organization.

I appreciate your time in supporting this Doctoral research project examining business-to-business relationship value, a subject of increasing attention to organizations. I ask you to assess the questions in the role of a customer receiving product or service. The design of this academic research is not focused on any one specific supplier, but rather on an overall assessment of your key suppliers.

Confidentiality is assured. Your response will be processed within a secure licensed Survey Monkey portal, and your identity is protected. Your personal contact information is not attached to the submitted survey. Each participant is identified by an automated and anonymous reference number. You will receive no direct follow-up or contact as a result of completing this survey.

Only aggregated results will be reported. If you choose to participate in this project, please answer all questions as honestly as possible and confirm the completed questionnaires promptly. Participation is strictly voluntary. You may decline to participate at any time. Thank you for taking the time to assist this professional academic research. The data collected will provide useful information regarding the parameters influencing business relationship value.

Sincerely,

Philip J. Brown

Email: pb16@hood.edu

Cell: 240 422 7418

Additional:

1. If you would like a summary copy of the completed study, please communicate with me directly. Completion of the questionnaire will indicate your willingness to participate in this study. If you require additional information or have questions, please contact me directly.
2. If you are not satisfied with the manner in which this study is being conducted, you may report (anonymously if you so choose) any complaints to the Research Dissertation Chair:

Dr. Jerrold Van Winter, Associate Professor of Management,
Hood College, 401 Rosemont Ave, Frederick, MD 21701

Appendix B: Participant Questionnaire

Please indicate the importance that you, as a customer, attach to the following characteristics, practices, and abilities of your key suppliers.					
1. Not important; 2. Less Important; 3. Moderately important; 4. Important; 5. Very important	1	2	3	4	5
Quality of standard operating procedures (SOP)					
Conformance of SOP's to our requirements					
Presence of systems in place for corrective actions, if required					
Long-term relationship orientation					
Demonstrated commitment to our organization					
Tech-savvy image					
High integrity					
Confidence in partnership					
Ability to provide reliable information/advice					
Frequency of interaction and cooperation					
Cooperation in the development of products/services.					
Cooperation in shared-cost optimization					
National proximity					
Regional proximity					
Local proximity (within 2-hours)					
Values congruence with respect to ethics and corporate responsibility					
Values congruence with respect to innovation					
Values congruence with respect to corporate culture					
Please indicate your level of agreement with the following statements.					
1. Strongly disagree; 2. Disagree; 3. Neutral; 4. Agree; 5. Strongly agree	1	2	3	4	5
We are satisfied with our suppliers					
We believe that the suppliers care about our organization					
If we had to do it again, we would still choose the same suppliers					

Appendix C: Participant Questionnaire Demographics

<p>1. What is the total number of persons employed in your immediate organization?</p> <ul style="list-style-type: none">- 1-9- 10-24- 25-99- 100-499- 500+
<p>2. How long have you been with your current organization?</p> <ul style="list-style-type: none">- Less than three years- Three to ten years- More than ten years
<p>3. Which manufacturing sector is aligned with your organization?</p> <ul style="list-style-type: none">- Food Manufacturing NAICS 311- Beverage and Tobacco Product Manufacturing NAICS 312- Wood Product Manufacturing NAICS 321- Paper Manufacturing NAICS 322- Printing and Related Support Activities NAICS 323- Petroleum and Coal Products Manufacturing NAICS 324- Electrical Equipment- Plastics and Rubber Products Manufacturing NAICS 326- Nonmetallic Mineral Products Manufacturing NAICS 327- Primary Metal Manufacturing NAICS 331- Fabricated Metal Product Manufacturing NAICS 332- Machinery Manufacturing NAICS 333- Computer and Electronic Product Manufacturing NAICS 334- Electrical Product, Appliance, and Component Manuf. NAICS 335- Transport Equipment Manufacturing NAICS 336- Furniture Equipment Manufacturing NAICS 337- Miscellaneous Manufacturing NAICS 339- Distribution and Wholesale NAICS 423- Other
<p>4. Gender</p> <ul style="list-style-type: none">- Male- Female- Other
<p>5. Age</p> <ul style="list-style-type: none">- 18-25 years- 25-34 years- 35-44 years- 45-54 years- 55 years or older

6. Education:

What is the highest degree or level of school you have completed? If currently enrolled, the highest degree received.

- High school graduate, diploma or the equivalent
- College credit, trade/technical/vocational training, associate degree
- Bachelor's degree
- Master's degree
- Doctorate / Ph.D. degree

7. Job Level / Job Title

Which of the following most closely matches your job title?

- Entry Level; Analyst / Associate
- Manager; Senior Manager
- Director; Vice President
- President; CEO; Owner

Appendix D: Phoenix Mecano Inc. SOP 7.2.03 External Survey Process

 PHOENIX MECANO		Document Number	
EXTERNAL SURVEY PROCESS		7.2.03	
Prepared By	Approved By	Revision	Date
Christina Patterson Sales & Marketing Analyst	Tabitha Beltran IT Manager	0	9/19/19
Uncontrolled – If Printed without "Controlled" stamp			

SCOPE Applies to all departments where external survey information is gathered, referenced or utilized to maintain quality performance.

PURPOSE Define the process for implementing and sending any type of external survey to any entity outside of the Phoenix Mecano business.

RESPONSIBILITY All Employees are responsible for ensuring product and process conformance

DEFINITIONS **CRM:** Customer Resource Management. Software used for Customer Resource Management.

CSV File: A comma-separated values (CSV) file is a delimited text file that uses a comma to separate values. A CSV file stores tabular data (numbers and text) in plain text in Microsoft Excel.

Respondent: Any person who will receive and/or complete a survey.

Administrator: The person with full security permissions to create, edit and view all customization options within the related software program.

IP Addresses:

PROCEDURE I. Create "Survey XYZ" in Survey Monkey

It is understood that the person implementing any survey has prior knowledge & experience regarding the basics of what a survey is and how to design a survey within the Survey Monkey Software program.

Enter survey questions, design survey within Survey Monkey portal (detailed work instructions on designing a survey can be found within the Survey Monkey Portal).

Once survey questions have been entered save the form until respondents contact information can be imported and attached to the aforementioned survey.

II. Make "Survey XYZ" Anonymous

To ensure that the survey you've just created remains listed as an "anonymous" survey as the administrator you must click "Anonymous Responses" and "On" from the design menu on your survey BEFORE designing. The Anonymous Responses collector option lets you choose whether or not to track and store identifiable respondent information in survey results. SurveyMonkey records respondent IP addresses in backend logs and deletes them after 13 months.

III. Compile & Export List of Respondent Contact Info from CRM System

Next you will need to add respondents to your survey. Respondents information can be entered manually (one at a time) or in cases where the respondent list contains more than 50 names using the import/export feature to import large lists is most efficient. In this step we will define how and where to obtain such a list of respondents. Phoenix Mecano manages all customer resources through the companies CRM system. It is further understood that before conducting any such company related surveys that the administrator in this instance has been trained on and maintains an active clearance to login and use the CRM System.

Open your CRM system and log in using your credentials. Once there you can run a query that meets criteria requirements for your survey type (ex. "pull all contact names & email addresses that show activity within the last 24 months etc.). Once query has processed, export all entries provided from CRM into an excel CSV (comma separated values) file. Save that exported file in the companies default secured location. You are done using CRM for this step (close the CRM window).

IV. Import List of Respondent Contacts Into Survey Monkey

Open the Survey Monkey tab where your newly created survey is active. Select "import contacts" from the dropdown menu and press enter. Choose the location listed above where you stored the CRM export file and select the CSV file. Click the "Import" button and press enter. Once all names are successfully imported save the Survey Monkey file until you're ready to send the survey.

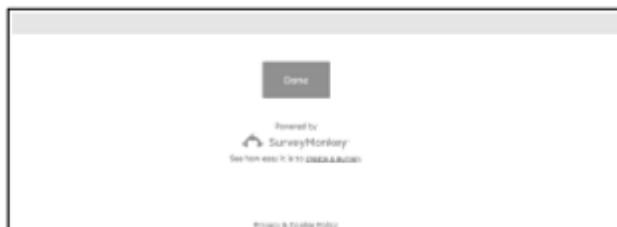
V. Send Survey

Once all required respondents contact information has been entered, confirm that the security feature is enabled (in the html address bar- you will see a lock symbol. This means that your data is on a secure site) click "Send the survey" and then await the responses.

The respondent will receive an email from "firstname.lastname@pm-usa.com via SurveyMonkey" with a secure link that leads to the secure survey portal where the respondent can complete their survey and submit responses. (see image below)

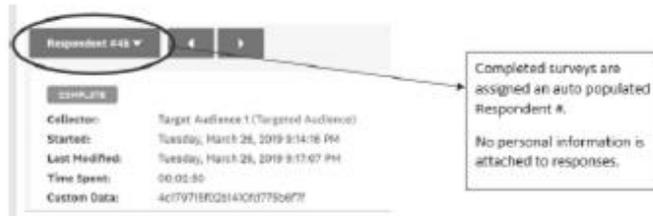


VI. Respondent Completes Survey & Submits



VII. Survey Data Received Into Survey Monkey

Once the respondent clicks "Done" their information will be sent to the Survey Monkey portal. Because you chose "Anonymous" when designing the survey there will be no personal or contact information attached to the responses. Survey Monkey will automatically assign each survey an auto generated "Respondent No." (see image below)



VIII. Data Reports Auto Generated by Survey Monkey

Choose which format you would like your data report to be from the Survey Monkey report design choices and then choose the "Export and Save" option.

IX. Export Data Report from Survey Monkey (PDF)

Export the report as a PDF and save it to the companies previously mentioned default secured network folder. Note- it is best to save this report with the same name as the survey for consistency.

X. Deliver and Launch

Once you have successfully saved a PDF copy of your report you can now share your results with all interested parties via email, white paper delivery or any other means in which Phoenix Mecano has approved via corporate policy.

REFERENCE QP01: Document Control
SOP 7.2.01 Customer Related Processes
Survey Monkey Portal- Account Login
CRM Account Login

FORM/RECORD Records are controlled by SOP 4.2.01 Control of Records, Appendix A

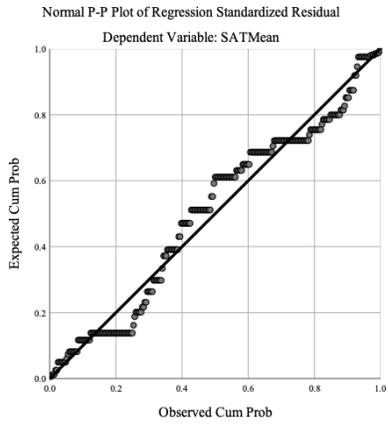
Change Log			
Date	Rev #	Change	Changed by:
9/19/2019	0	Document created	Christina Patterson

Appendix E: Survey Participants Manufacturing Sector (N = 263)

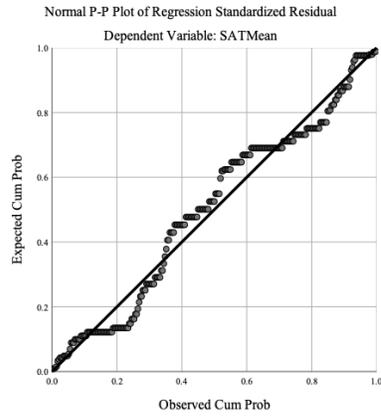
Value	<i>N</i>	Percent
Food Manufacturing NAICS 311	6	2.3%
Beverage and Tobacco Product Manufacturing NAICS 312	2	0.8%
Wood Product Manufacturing NAICS 321	0	0.0%
Paper Manufacturing NAICS 322	5	1.9%
Printing and Related Support Activities NAICS 323	4	1.5%
Petroleum and Coal Products Manufacturing NAICS 324	3	1.1%
Electrical Equipment	1	0.4%
Plastics and Rubber Products Manufacturing NAICS 326	14	5.3%
Nonmetallic Mineral Products Manufacturing NAICS 327	0	0.0%
Primary Metal Manufacturing NAICS 311	6	2.3%
Fabricated Metal Product Manufacturing NAICS 332	18	6.9%
Machinery Manufacturing NAICS 333	38	14.5%
Computer and Electronic Product Manufacturing NAICS 334	29	11.1%
Electrical Product, Appliance, and Component Manuf. NAICS 335	42	16.0%
Transport Equipment Manufacturing NAICS 336	8	3.1%
Furniture Equipment Manufacturing NAICS 337	6	2.3%
Miscellaneous Manufacturing NAICS 339	35	13.4%
Distribution and Wholesale NAICS 423	18	6.9%
Other	27	10.3%
Missing	1	0.4%

Appendix F: Plot of Regression Residual by Independent Variable

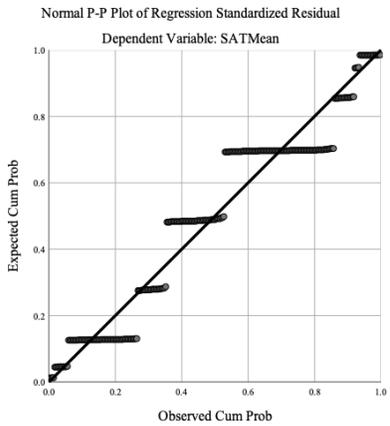
RPPMean



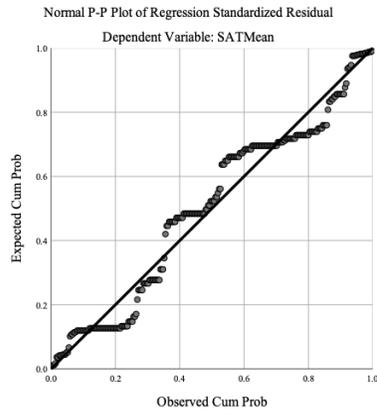
MCOMean



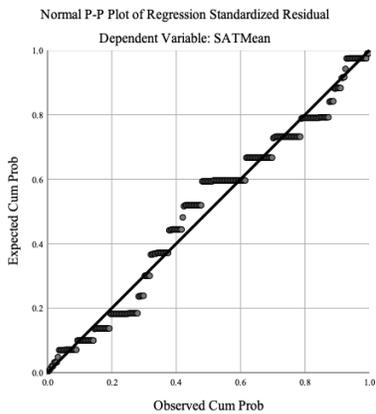
RCO Mean



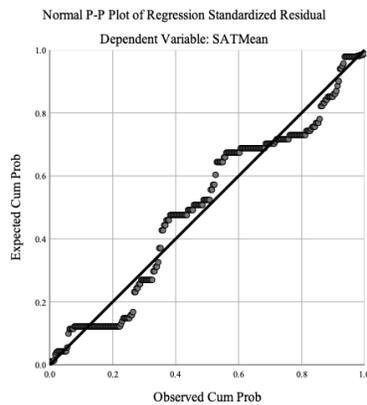
GEOMean



TRTMean

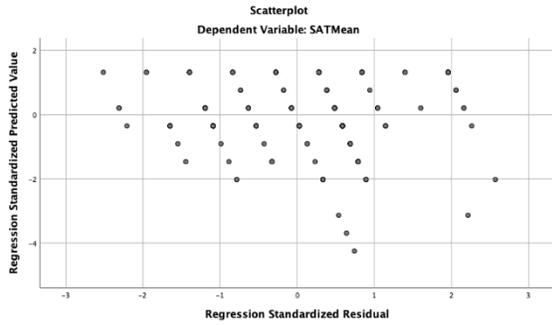


VGRMean

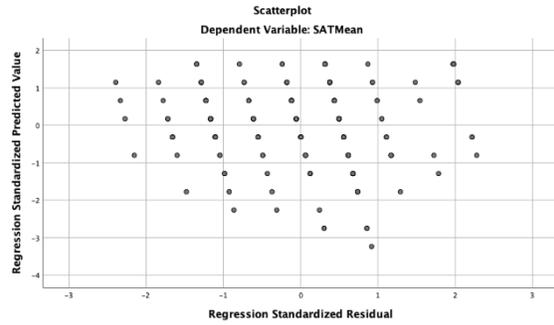


Appendix G: Scatterplot of Regression Residual by Independent Variable

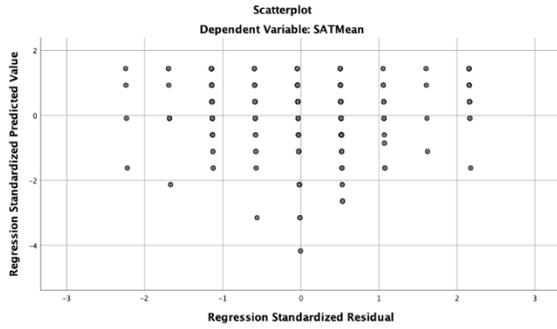
RPPMean



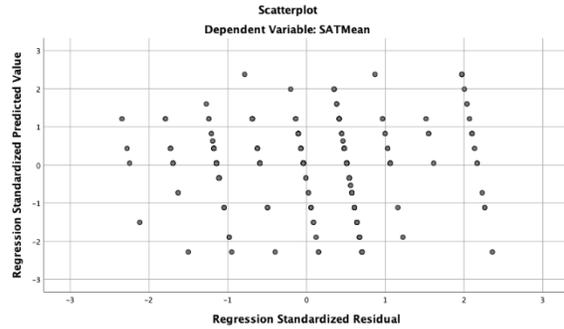
MCOMean



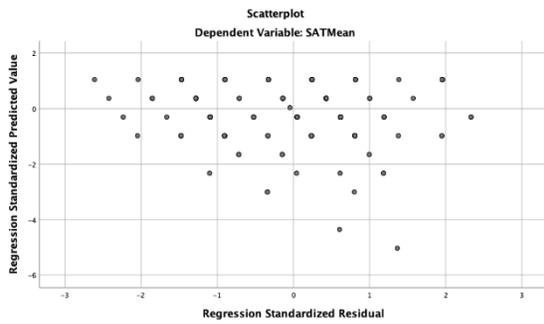
RCO Mean



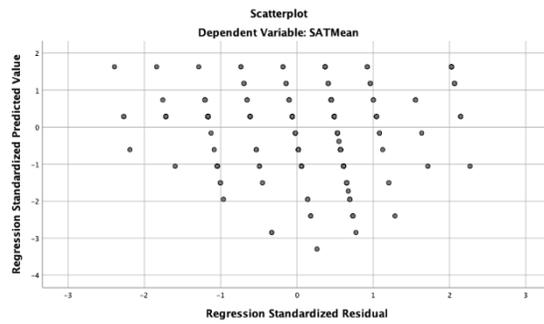
GEOMean



TRTMean



VGRMean



Appendix H: Regression Statistics (n = 263)

Table 45 ANOVA Model

		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.129	1	3.129	8.793	.003 ^b
	Residual	92.860	261	.356		
	Total	95.989	262			
2	Regression	7.740	2	3.870	11.402	.000 ^c
	Residual	88.249	260	.339		
	Total	95.989	262			
3	Regression	7.858	3	2.619	7.698	.000 ^d
	Residual	88.131	259	.340		
	Total	95.989	262			
4	Regression	10.367	4	2.592	7.809	.000 ^e
	Residual	85.622	258	.332		
	Total	95.989	262			
5	Regression	10.931	5	2.186	6.605	.000 ^f
	Residual	85.058	257	.331		
	Total	95.989	262			
6	Regression	11.013	6	1.835	5.529	.000 ^g
	Residual	84.976	256	.332		
	Total	95.989	262			
7	Regression	13.042	7	1.863	5.728	.000 ^h
	Residual	82.947	255	.325		
	Total	95.989	262			

a. Dependent Variable: SATMean

b. Predictors: (Constant), RPPMean

c. Predictors: (Constant), RPPMean, TRTMean

d. Predictors: (Constant), RPPMean, TRTMean, MCOMean

e. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean

f. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean

g. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean, VGRMean

h. Predictors: (Constant), RPPMean, TRTMean, MCOMean, RCOMean, GEOMean, VGRMean, Age Group

Table 46 *Coefficients of Each Model*

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.	VIF
		B	Std. Error	Beta	t		
1	(Constant)	2.920	.262		11.155	.000	
	RPPMean	.183	.062	.181	2.965	.003	1.000
2	(Constant)	1.983	.360		5.503	.000	
	RPPMean	.099	.064	.098	1.545	.123	1.141
	TRTMean	.287	.078	.234	3.686	.000	1.141
3	(Constant)	1.992	.361		5.516	.000	
	RPPMean	.107	.066	.106	1.629	.104	1.187
	TRTMean	.310	.087	.253	3.561	.000	1.421
	MCOMean	-.037	.062	-.042	-.590	.556	1.406
4	(Constant)	2.098	.359		5.848	.000	
	RPPMean	.148	.066	.146	2.225	.027	1.250
	TRTMean	.374	.089	.305	4.203	.000	1.528
	MCOMean	.007	.064	.008	.111	.912	1.500
	RCOMean	-.182	.066	-.196	-2.749	.006	1.475
5	(Constant)	2.062	.359		5.739	.000	
	RPPMean	.136	.067	.134	2.022	.044	1.275
	TRTMean	.394	.090	.322	4.368	.000	1.572
	MCOMean	-.017	.066	-.019	-.258	.797	1.627
	RCOMean	-.204	.068	-.220	-2.992	.003	1.574
	GEOMean	.062	.047	.088	1.305	.193	1.311
6	(Constant)	2.053	.360		5.698	.000	
	RPPMean	.143	.069	.141	2.078	.039	1.333
	TRTMean	.401	.091	.327	4.386	.000	1.610
	MCOMean	-.012	.067	-.013	-.171	.864	1.673
	RCOMean	-.198	.070	-.213	-2.841	.005	1.631
	GEOMean	.067	.049	.095	1.379	.169	1.374
	VGRMean	-.030	.061	-.037	-.497	.620	1.645
7	(Constant)	1.722	.380		4.528	.000	
	RPPMean	.145	.068	.143	2.129	.034	1.333
	TRTMean	.378	.091	.309	4.157	.000	1.627
	MCOMean	.010	.067	.011	.143	.886	1.700
	RCOMean	-.193	.069	-.209	-2.807	.005	1.632
	GEOMean	.073	.048	.104	1.521	.129	1.378
	VGRMean	-.025	.061	-.031	-.418	.676	1.647
	Age Group	.080	.032	.149	2.498	.013	1.044

Note: Dependent variable = customer satisfaction (SATMean)

REFERENCES

- Adkins, G. L., Thornton, T. J., & Blake, K. (2009, July). A content analysis investigating relationships between communication and business continuity planning. *International Journal of Business Communication*, 46 (3), 362-403.
<https://doi.org/10.1177/0021943609333525>
- Aguinis, H. (2004). *Regression Analysis for Categorical Moderators*. Guilford Press.
- Anderson, E., & Jap, S. D. (2005). The dark side of close relationships. *MIT Sloan Management Review*, 46(3), 75-82.
- Anthony, S. D., Viguerie, S. P., Schwartz, E. I., & Landeghem, J. V. (2018). 2018 corporate longevity forecast: Creative destruction is accelerating. [Executive briefing]. Innosight.
<https://www.inosight.com/insight/creative-destruction>.
- Avery, J., Fournier, S., & Wittenbraker, J. (2014). Unlock the mysteries of your customer relationships. *Harvard Business Review*, 92 (7/8), 1-11.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51 (6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1172>
- Baxter, P. (2008). *Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers*. *The Qualitative Report*, 13(4), pp. 544–559.
- Bickham, T. (2017, July 12). How to thrive in the relationship economy. *Forbes Communications Council*.
<https://www.forbes.com/sites/forbescommunicationscouncil/2017/07/12/how-to-thrive-in-the-relationship-economy/#58dff082c0b>

- Biggeman, S., & Buttle, F. (2005). Conceptualizing business-to-business relationship value. In W. Windstar (Ed.), *Proceedings of the 21st annual IMP conference: dealing with dualities* Erasmus University: Industrial Marketing and Purchasing (IMP) Group.
- Binder, C., & Hanssens, D. M. (2015, April 14). Why strong customer relationships trump powerful brands. *Harvard Business Review*. Digital Article.
- Blau, P. M. (1964). *Exchange and power in social life*. John Wiley & Sons, Inc.
- Bricci, L., & Antunes, J. (2016). The effects of trust, commitment, and satisfaction customer loyalty in the distribution sector. *Journal of Economics, Business, and Management*, 4, 173-177. <https://doi.org/10.7763/JOEBM.2016.V4.386>
- Brown, P. J. (2004). *The dynamics of long-term relationships in the business-to-business (B2B) environment*. Henley Management College, UK.
- Bureau of Economic Analysis News Release. (2020, March 26). Retrieved April 9, 2020, from <https://www.bea.gov/news/2020/gross-domestic-product-fourth-quarter-and-year-2019-third-estimate-corporate-profits>
- Byrne, J. A., & Gerdes, L. (2005, November 28). Peter Drucker, a leading authority on business and organizational leadership. *Businessweek*, 96-106.
- Cannon, J. P., & Perreault, W. D. (1999). Buyer-seller relationships in business markets. *Journal of Marketing Research*. 36 (4), 439-460. <https://doi.org/10.1177/0022243799003600404>
- Carucci, R. (2018, July 18). How to build trust when working across borders. *Harvard Business Review*. Digital Article.
- Cespedes, F. V., & Bova, T. (2015, August 5). What salespeople need to know about the new B2B landscape? *Harvard Business Review*. Digital Article.

- Chamberlain, T. (2014). The Congruence Framework. An opportunity to rethink the future of organizations.
- Cochrane, W. G. (1977). Sampling techniques (3rd ed.). John Wiley & Sons, Inc.
- Cohen, J. (1992). A power primer. *Psychological Bulletin*, 112(1), 155-159. doi:10.1037/0033-2909.112.1.155
- Cranfield School of Management Research Club. (2019). Customer management forum. <https://www.cranfield.ac.uk/som/research-clubs/customer-management-forum>
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31 (6), 874-900. <https://doi.org/10.1177/0149206305279602>
- Davis, I. (2014, September). Reflections on corporate longevity. *McKinsey Quarterly*, 1-5. <https://www.mckinsey.com/buisness-functions/strategy-and-corporate-finance/our-insights/reflections-on-corporate-longevity>
- Deming, E. (1982). Out of the crisis. MIT Press.
- Diebold, W., & Porter, M. (1990). The competitive advantage of nations. *Foreign Affairs*, 69(4), 180-180. <https://doi:10.2307/20044520>
- Dovaliene, A., Masiulyte, A., & Piligrimiene, Z. (2015). The relations between customer engagement, perceived value, and satisfaction: The case of mobile applications. *Procedia - Social and Behavioral Sciences*, 213, 659-664. <https://doi:10.1016/j.sbspro.2015.11.469>
- Donaldson, B., and O' Toole, T. (2000). Classifying relationship structures: relationship strength in industrial markets. *Journal of Business & Industrial Marketing*, 15 (7), 491-506. <https://doi.org/10.1108/08858620010351724>
- Draper, N. R., & Smith, H. (1998). Applied regression analysis. New York: John Wiley & Sons.
- Drucker, P. (1954). The practice of management. (6th ed.). Harper & Row.

- Dubois, A., & Hakansson, H. (2002). Conceptualizing business relationships. *Journal of Customer Behavior*, 1 (1), 49-68. <https://doi.org/10.1362/147539202323071272>
- Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). Fundamentals of business process management. <https://www.doi.org/10.1007/978-3-642-33143-5>
- Dussauge, P., & Garette, B. (1999). *Cooperative strategy: Competing successfully through strategic alliances*. John Wiley & Sons, Inc.
- Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2, 335-362. <https://doi.org/10.1146/annurev.so.02.080176.002003>
- Ferguson, C. J. (2009). An effect size primer: A guide for clinicians and researchers. *Professional Psychology: Research and Practice*, 40(5), 532-538. doi:10.1037/a0015808
- Ford, D. (Ed) (2002). *Understanding business marketing and purchasing* (3rd ed). Thompson.
- Fornell, C., Johnson, D. M., Anderson, W. E., Cha, J., & Bryant B. E. (1996). The American customer satisfaction index: Mature, purpose, and findings. *Journal of Marketing*. 60 (4), 7-18. <https://doi.org/10.1177/002224299606000403>
- Gallard D., & Torre, A. (2005) Geographical proximity and circulation of knowledge through inter-firm cooperation. *Science Regionali*, 2, 21-35. https://doi.org/10.1057/9780230554856_8
- Ganesan, S., Malter, A. J., & Rindfleisch, A. (2005). Does distance still matter? Geographic proximity and new product development. *Journal of Marketing*, 69(4), 44-60. <https://doi.org/10.1509/jmkg.2005.69.4.44>.
- Garfield, S. (2016). *Measuring the ROI of Knowledge Management* (2nd ed.). ARK Conferences.
- Gates, B. (2018, August 14). Not enough people are paying attention to this economic trend. Gates Notes. <http://www.gatesnotes.com/Books/Capitalism-Without-Capital/>

- Geerts, A., Leten, B., Belderbos, R., & Looy, B. V. (2017, April 12). Does spatial ambidexterity pay off? On the benefits of geographic proximity between technology exploitation and exploration. *Journal of Product Innovation Management*, 35 (2), 151-163.
<https://doi.org/10.1111/jpim.12380>
- Gefen, D., & Ridings, C. M. (2002). Implementation team responsiveness and user evaluation of customer relationship management: A quasi-experimental design study of social exchange theory. *Journal of Management Information Systems*, 19 (1), 47-69.
<https://doi.org/10.1080/07421222.2002.11045717>
- George, D., & Mallery, P. (2020). *IBM SPSS statistics 26 step by step* (16th ed.). Rutledge.
- Gijsbertsen, R. (2020, April 21). Responsible disengagement in the time of corona. Retrieved from <https://www.somo.nl/responsible-disengagement-in-the-time-of-corona/>
- Gil-Saura, I., Frasquet-Deltoro, M., & Cervera-Taulet, A. (2009). The value of B2B relationships. *Industrial Management & Data Systems*, 109 (5), 593-609.
<https://doi.org/10.1108/02635570910957605>
- Gounaris, S. P. (2005) Trust and commitment influences on customer retention: Insights from business-to-business services. *Journal of Business Research*. 58(12), 126-140.
[https://doi.org/10.1016/S0148-2963\(03\)00122-X](https://doi.org/10.1016/S0148-2963(03)00122-X)
- Govindarajan, V., Lev, B., Srivastava, A., & Enache, L. (2019, October 11). The Gap Between Large and Small Companies Is Growing. Why? Retrieved from <https://hbr.org/2019/08/the-gap-between-large-and-small-companies-is-growing-why>
- Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), 481-510. <https://doi.org/10.1086/228311>

- Grewal, R., Lilien, G. L., Bharadwaj, S., Jindal, P., Kayande, U., Lusch, R., Mantrala, M., Palmatier, R. W., Rindfleisch, A., Scheer, L. K., Spekman, R., & Sridhar, S. (2015). Business-to-business buying: Challenges and opportunities. *Customer Needs and Solutions*, 2(3), 193-208. <https://doi:10.1007/s40547-015-0040-5>
- Grimm, P. (2010, December 15). Social Desirability Bias. Retrieved from <https://onlinelibrary.wiley.com/doi/abs/10.1002/9781444316568.wiem02057>
- Hague, P., & Hague, N. (2018). Customer satisfaction surveys & research: How to measure CSAT. [White Paper]. B2B International. <https://www.b2binternational.com/publications/customer-satisfaction-survey/>
- Hair, J., Babin B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis* (6th ed.). Pearson Educational.
- Hanzaee, K. H., & Andervazh, L. (2012). An analysis of some moderating variables on the value, brand trust, and brand loyalty chain. *Research Journal of Applied, Sciences, Engineering and Technology*, 4(10), 1403-1413. <https://pdfs.semanticscholar.org/ae48/b15c13620696e93e6715216f40a8a4016c02.pdf>
- Haskel, J., & Westlake, S. (2018). *Capitalism without capital. The rise of the intangible economy*. Princeton University Press.
- Hayes, A. F. (2020). PROCESS macro for SPSS and SAS. Retrieved from <https://www.processmacro.org/index.html>
- Heaps, J. (2001). The role of national productivity organizations in facilitating innovation. *Management Services*. 18-22.
- Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, Jr., W. E., & Schlesinger, L. A. (2008). Putting the service-profit chain to work. *Harvard Business Review*. 72 (2), 164-174.

- Hill, N., & Alexander, J. (2006). *The handbook of customer satisfaction and loyalty measurements* (3rd ed.). Gower Publishing.
- Hill, N., Roche, G., & Allen, R. (2007). *Customer satisfaction: The customer experience through the customer's eyes*. Cogent Publishing Ltd.
- Homans, G. C. (1958). Social behavior as an exchange. *American Journal of Sociology*, 63 (6), 597-606. <https://doi.org/10.1086/222355>
- Holl, A., Pardo, R., & Rama, R. (2010). Just-in-time manufacturing systems, subcontracting, and geographic proximity. *Regional Studies*, 44 (5), 519-533. <https://doi.org/10.1080/0034300902821626>
- Holmes, O. W. (1895). *The autocrat of the breakfast table: every man his own Boswell*. Boston: Houghton Mifflin and Company.
- International Monetary Fund IMF DataMapper. (n.d.). Retrieved April 9, 2020, from https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWO_RLD
- Institute for the Study of Business Markets (2019). *IBSM pulse: For academics*. <https://isbm.org/for-academics/>
- Israel, G. (1992, November). *Determining sample size*. Gainesville, Florida: University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS.
- Janvier-James, A. M. (2012, January 1). A new introduction to supply chains and supply chain management: Definitions and theories perspective. *International Business Research*, 5(1), 194-205. <https://doi.org/10.5539/ibr.v5n1p194>
- Jewells, T. J., & Timbrell, G. T. (2001). Towards a definition of B2C & B2B e-commerce. *ACIS 2001 Proceedings*, 56. <http://aisel.aisnet.org/acis2001/56>

- Karanen, J., & Jalkala, A. (2014, March). Three strategies for customer value assessment in business markets. *Management Decision*, 52 (1), 79-100. <https://doi.org/10.1108/MD-04-2013-0230>
- Khadka, K., & Maharjan, S. (2017). Customer satisfaction and customer loyalty [Thesis, Centria University of Applied Sciences]. <https://core.ac.uk/download/pdf/161421179.pdf>
- Kotler, P. (2003). *Marketing Management* (11th ed.). Pearson Prentice Hall.
- Kumar, V., Petersen, J. A., & Leone, R. P. (2013, January). Defining, measuring, and managing business reference value. *Journal of Marketing*, 77 (1), 68-86. <https://doi.org/10.1509/jm.11.0424>
- Laerd Statistics (2020). <https://statistics.laerd.com/premium/sts/index.php>
- Lages, L., Lancaster, A., & Lages, C. (2005). Bringing relationship marketing theory into b2b practice: The b2b-rp scale and the b2b-relperf scorecard. (FEUNL Writing Paper no. 471). *SSRN Electronic Journal*, 1-26. <https://doi:10.2139/ssrn.882781>
- Lee, H. S. (2013). Major moderators influencing the relationships of service quality, customer satisfaction, and customer loyalty. *Asian Social Science*, 9(2), 1-11. <https://doi.org/10.5539/ass.v9n2pl>
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience through the customer journey. *Journal of Marketing*, 80(6), 69-96. <https://doi.org/10.1509/jm.15.0420>
- Lilien, G. L. (2016). The B2B knowledge gap. *International Journal of Research in Marketing*, 33(3), 543-566. <https://doi.org/10.1016/j.ijresmar.2016.01.003>
- Locke, E., Noorderhaven, N. G., Cannon, J. P., Doney, P. M., & Mullen, M. R. Some reservations about social capital. *Academy of Management Review*, 24(1), 8-9. <https://doi.org/10.5465/amr.1999.15873796>

- Lotz, S., Rabbe, J., & Roggenhofer, S. (2018). The role of customer care in a customer experience transformation. McKinsey on Customer Care. Excellence in the Digital Age, 1, 1-7. <https://www.mckinsey.com/business-functions/operations/our-insights/the-role-of-customer-care-in-a-customer-experience-transformation>
- Lovaglia, M. J., Skvoretz, J., Willer, D., & Markovsky, B. (1995). Negotiated exchanges in social networks. Social Forces, 74(1), 123-155. <https://doi.org/10.1093/sf/74.1.123>
- Ludlow, L., & Klein, K. (2014). Suppressor Variables: The Difference Between 'is' Versus 'Acting As.' Journal of Statistics Education, 22(2), 1–28.
doi:10.1080/10691898.2014.11889703
- Lund, S., Manyika, J., Woetzel, J., Bughin, J., Krishnan, M., Seong, J., & Muir, M. (2019, January). Globalization in transition: The future of trade and value chains. McKinsey Globalization Institute. <https://www.mckinsey.com/featured-insights/innovation-and-growth/globalization-in-transition-the-future-of-trade-and-value-chains>
- Lundberg, H. (2008). Geographical proximity effects and regional strategic networks. [Doctoral dissertation, Uppsala University]. DiVa. <http://www.diva-portal.org/smash/get/diva2:171790/FULLTEXT01.pdf>
- MacKenzie, S. B., & Podsakoff, P. M. (2012, September 15). Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S0022435912000681>
- MacKinnon, D. P. (2011). Integrating mediators and moderators in research design. Research of Social Work Practice, 21(6), 675-681. <https://doi.org/10.1177/1049315111414148>
- Magretta, J. (2002). Why business models matter. Harvard Business Review, 80(5), 86-92.

- Manyika, J., Lund, S., Bughin, J., Woetzel, J., Stamenov, K., & Dhingra, D. (2016, March). Digital globalization: The new era of global flows. McKinsey Global Institute. <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/digital-globalization-the-new-era-of-global-flows>
- Márquez Gabriel García, & Grossman, E. (2016). Love in the time of cholera. London: Penguin Books.
- Matzler, K., Grabner-Krauter, S., & Bidmon, S. (2006). The value - brand trust - brand loyalty chain: An analysis of some moderating variables. *Innovative Marketing*, 2(2), 76-88. https://www.researchgate.net/publication/228109403_The_value-brand_trust-brand_loyalty_chain_An_analysis_of_some_moderating_variables
- Maynes, J., & Rawson, A. (2016). Linking the customer experience to value. McKinsey & Company. <https://www.mckinsey.com/buisness-functions/marketing-and-sales/our-insights/customer-experience-creating-value-through-transforming-customer-journeys>
- Meglino, B. M., Ravlin, E. C., & Adkins, C. (1989). A work values approach to corporate culture: A field test of the value congruence process and its relationship to individual outcomes. *Journal of Applied Psychology*. 74(3), 424-432. <https://doi.org/10.1037/0021-9010.74.3.424>
- Meyners, J., Barrot, C., Becker, J. U., & Goldenberg, J. (2017). The role of mere closeness: How geographic proximity affects social influence. *Journal of Marketing*, 81(5), 49-66. <https://doi.org/10.1509/jm.16.0057>
- Microsoft. "What Is CRM?" Microsoft Dynamics 365, dynamics.microsoft.com/en-us/crm/what-is-crm/

- Miller, J. (2017, September 5). What does value really mean for b2b marketers? LinkedIn Sales and Marketing Solutions, EMEA Blog. <https://business.linkedin.com/en-uk/marketing-solutions/blog/posts/B2B-Marketing/2017/what-does-value-really-mean-for-B2B-marketers>
- Molm, L. D. (1994). Dependence and risk: Transforming the structure of social exchange. *Sociology Psychology Quarterly*, 57(3), 163-176. <https://doi.org/10.2307/2786874>
- Monteiro, H. L. (2015). When good business relationships go bad: A quantitative analysis of dark side variables in mature supply chain relationships. [Doctoral dissertation, Georgia Southern University]. Digital Commons @ Georgia Southern. <https://digitalcommons.georgiasouthern.edu/etd/1327>
- Nonaka, I., & Nishiguchi, T. (Eds.) (2001). Knowledge emergence: Social, technical, and evolutionary dimensions of knowledge creation. Oxford University Press.
- The North American Industry Classification System (2017). https://www.census.gov/eos/www/naics/2017NAICS/2017_NAICS_Manual.pdf
- Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). McGraw-Hill.
- Nykamp, M., & McEachern, C. (2001). Customer relationship report: Privacy, CRM, and ROI. DM Review. <http://www.dmreview.com>
- O'Boyle, E., Fleming, J. H., & Otto, B. (2013, March 7). Finding the right measures of success for b2b's. *Business Journal*. <https://news.gallup.com/businessjournal/160796/finding-right-measure-success-b2bs.aspx>
- O'Cass, A., & Ngo, L. (2012, January). Creating superior customer value for b2b firms through firm capabilities. *Industrial Marketing Management*, 41(1), 125-135. <https://doi.org/10.1016/j.indmarman.2011.11.018>

- Omobhude, C., & Chen, S. (2019). The roles and measurement of proximity in sustained technology development. *Sustainability*, 11(1), 224. <https://doi.org/10.3390/su11010224>
- Pallant, J. (2016). *SPSS survival manual* (6th ed.). Open University Press.
- Pan, J. N., & Nguyen, H. T. (2015). Achieving customer satisfaction through product-service systems. *European Journal of Operational Research*, 247(1), 179-190. <https://doi.org/10.1016/j.ejor.2015.05.018>
- Pandey, S., & Elliott, W. (2010). Suppressor Variables in Social Work Research: Ways to Identify in Multiple Regression Models. *Journal of the Society for Social Work and Research*, 1(1), 28–40. <https://doi.org/10.5243/jsswr.2010.2>
- Peppers, D., & Rogers, M. (2004). *Managing customer relationships: A strategic framework* (6th ed.). John Wiley & Sons, Inc.
- Peppers, D., Rogers, M., & Dorf, B. (1999). Is your company ready for one-to-one marketing? *Harvard Business Journal*, 77(1), 151-160.
- Piricz, N. (2018, March 13). Affecting the determinants of trust in business relationships. *Serbian Journal of Management*, 13(2), 281-291. <https://doi.org/10.5937/sjm13-16649>
- Poppo, L., Zhou, K. Z., & Ryu, S. (2008). Alternative origins to inter-organizational trust: An interdependence perspective on the shadow of the past and the shadow of the future. *Organizational Science*, 19(1), 39-55. <https://doi.org/10.1287/orsc.1070.0281>
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.
- Porter, M. E., & Kramer, M. R. (1988). *The competitive advantage of nations*. Free Press.
- Porter, M. E. (2008). *The Five Competitive Forces That Shape Strategy*. Harvard Business Review.

- Porter, M. E., & Kramer, M. R. (2011). The big idea: Creating shared value. *Harvard Business Review*, 89(1, 2), 62-77.
- Power, B. (2012, October 30). The next wave of process strategy. *Harvard Business Review*. Digital Article.
- Prahalad, C., & Ramaswamy, V. (2004). Co-creating unique value with customers. *Strategy & Leadership*, 32(3), 4-9. <https://doi:10.1108/10878570410699249>
- Presutti, M., Boari, C., & Majocchi, A. (2013). Inter-organizational geographical proximity and local start-ups' knowledge acquisition: A contingency approach. *Entrepreneurship and Regional Development*, 25(5-6), 446-446.
<https://doi.org/10.1080/08985626.2012.760003>
- Preziosi, R., & Gooden, D. (2011). The relationship between values, congruence, and innovation capability. *International Business & Economics Research Journal*, 1(8), 31-34.
<https://doi.org/10.19030/iber.v1i8.3964>
- Reinartz, W., Kumar, V., & INSEAD. (2000). On the profitability of long lifetime customers: An empirical investigation and implications for marketing. *Journal of Marketing*, 64(4), 17-35. <https://doi.org/10.1509/jmkg.64.4.17.18077>
- Roberts, C., & Hyatt, L. (2019). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation* (3rd ed.). Corwin Press.
- Rodrik, D. (2018). Populism and the economics of globalization. *Journal of International Business Policy*, 1, 12-33. <https://doi.org/10.1057/s42214-018-0001-4>
- Ryals, L. (2012, July 13). How to succeed at key account management. (Digital Article). *Harvard Business Review*. <https://hbr.org/2012/07/how-to-succeed-at-key-account>

- Shapiro, S. P. (1987). The social control of impersonal trust. *American Journal of Sociology*, 93(3), 623-658. <https://www.jstor.org/stable/2780293>
- Sheppard, B., Kouyoumjian, G., Sarrazin, H., & Dore, F. (2018, October). The business value of design. McKinsey & Company. <https://www.mckinsey.com/business-functions/mckinsey-design/our-insights/the-business-value-of-design>
- Stannock, P., & Jones, M. (1996). The death of purchasing procedures. IPSERA.
- Sullivan, G., & Artino Jr., A. R. (2013). Analyzing and interpreting data from Likert-type scales. *Journal of Graduate Medical Education*, 5(4), 541-542. <https://doi.org/10.4300/JGME-5-4-18>
- Sun, P., Pan, F., Wu, P., & Kuo, C. (2014). An empirical study of b2b relationship value - offering type as a moderator. *Journal of Business Studies Quarterly*, 6(1), 79-97. http://jbsq.org/wp-content/uploads/2014/19/september_2014_6.pdf
- Survey Monkey. (2019). Demographic questions for surveys. <https://www.surveymonkey.com/mp/demographic-survey/>
- Swart, N. P., & Roodt, G. (2015). Market segmentation variables as moderators in the predication of business tourist retention. *Service Business*, 9, 491-513. <https://doi.org/10.1007/s11628-014-0236-z>
- Thompson, J., & Cole, M. (1997). Strategic competency – the learning challenge. *Journal of Workplace Learning*, 9(5), 153-162. <https://doi.org/10.1108/13665629710169611>
- US Census Bureau. (2020, April 3). 2017 SUSB Annual Data Tables by Establishment Industry. Retrieved from <https://www.census.gov/data/tables/2017/econ/susb/2017-susb-annual.html>

- U.S. Equal Employment Opportunity Commission. (2010). EEO-1 job classification guide.
<https://www.eeoc.gov/employers/eeosurvey/jobclassguide.cfm>
- U.S. Small Business Administration Office of Advocacy. (2010). 2018 small business profile.
<https://www.sba.gov/sites/default/files/advocacy/2018-Small-Buisness-Profiles-US.pdf>
- Ulaga, W., & Eggert, A. (2006). Value-based differentiation in business relationships: Gaining and sustainability key supplier status. *Journal of Marketing*, 70(1), 119-136.
<https://doi.org/10.1509/jmkg.70.1.119.qxd>
- Wallace, E. (2017). *The relationship engine: Connecting with the people who power your business*. American Management Association.
- Willer, D. (eds.). (1999). *Network exchange theory*. Praeger Publishers.
- Woo, A. (2018, June 4). Understanding the research of millennial shopping behaviors. Forbes Agency Council.
<https://www.forbes.com/sites/forbesagencycouncil/2018/06/04/understanding-the-research-on-millennial-shopping-behavior/#89669eb5f7ab>
- World Development Indicators. (2017). Retrieved from <http://datatopics.worldbank.org/world-development-indicators/>
- Yamane, T. (1967). *Statistics: An introduction analysis* (2nd ed.). New York, NY: Harpers and Row.
- Yohn, D. L. (2018, October 2). 6 ways to build a customer-centric culture. *Harvard Business Review*. Digital Article.
- Zeithaml, V. A., & Bitner, M. J. (2003). *Services marketing: Integrating customer focus across the firm* (3rd ed.). McGraw-Hill.