

Summer 8-12-2013

# Optimizing Marketing Activities for Different Levels of Customer Relationships

Karl G. Hellman  
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**Optimizing Marketing Activities for Different Levels of Customer  
Relationships**

**By**

**Karl G. Hellman**

Of

Executive Doctorate in Business

In the J Mack Robinson School of Business

Of

Georgia State University

Georgia State University  
Robinson College of Business

2013

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## **ACCEPTANCE**

This dissertation was prepared under the direction of the *Karl G. Hellman* Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Doctoral of Philosophy in Business Administration in the J. Mack Robinson College of Business of Georgia State University.

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## **Abstract**

The discipline of marketing is evolving from a product centric paradigm to a service centric paradigm. In traditional marketing, all value is invested in the product by the supplier and it is exchanged for a market determined price by means of an arm's length transaction. In the new view, value is co-created by customer and supplier through complex relationships in which the rewards are determined through negotiation by the principals.

This study contributes to this evolution by recognizing that in practice a supplier will and ought to continue to have some customer relationships that are transactional and others that involve higher levels of value co-creation. This study defines a five point continuum of relationships from transactional to strategic alliance and analyzes dyadic data in which customer and supplier are asked to evaluate the same relationship from their respective points of view. The result is a portfolio of a supplier's relationships that include each of the five levels. Three structured equation models are validated: one of the customer's assessment of the level of relationship as a function of new, behaviorally anchored measures; the second model is the supplier's assessment of the level of the relationship as a function of new, behaviorally anchored measures of investment in the relationship; the third model is the difference between customer and supplier assessments of the relationship as a function of differences in ratings of new, behaviorally anchored measures. An additional analysis segments the customer base on the level of assessment of the current and desired future level of relationship, and targeting and servicing processes are defined to enable the supplier to match the right offerings to each level of customer thereby optimizing their investment in their customer portfolio.

## INTRODUCTION

Marketing and Sales are evolving from a focus on arm's length *transactions* to collaborative *relationships* between buyers and sellers. And transaction marketing and relationship marketing are very different.

In *transaction* marketing all the value is created by the suppliers and packed into their products. Customers buy the products at prices that are determined by competitive market forces. Everyone pursues their self-interest in dividing value in a zero-sum game.

On the other hand, in *relationship* marketing buyers and sellers collaborate to co-create value. And economic value distribution is wrenched away from Adam Smith's invisible hand and placed in the very visible hands of the people cooperating to form the relationship. (Sheth, 2007)

The field of *services marketing* contributes to the evolution from transactions to relationships as well. Len Berry's definition of a service, "a bundle of benefits that is simultaneously produced and consumed," and his observation that "If you provide a service, the customer is standing in your factory, collaborating with you to create benefits (value)" implies a value co-creating relationship between supplier and customer. (Berry, 1978)

Since transactional marketing held the field long prior to the advent of relationship marketing, a great deal of academic effort and rigor went into describing and legitimizing the differences. And relationship marketing is winning the day.

However, when marketing and sales practitioners try to shift from best practices for transaction marketing to take advantage of the new insights about and principles of relationship marketing, they are confronted by a stubborn reality: Some exchanges are still, and of a right ought to remain, transactional. This is not to say that other exchanges are not relationships. Many are. But in practice both transactional exchanges and relationships co-exist.

The practical answer to this dilemma is to segment customers and prospects. Using Stone's definition of segmentation, "Different strokes for different folks" — (Stone, 1969) not only does a supplier need to distinguish between transactional and relationship exchanges (different folks) but they also need to recognize that the different segments require very different marketing activities (different strokes).

Again, in practice, not only are there the pure forms of transactional exchanges on the one hand and relationships on the other, but there are also hybrids in between. In some of these hybrids, suppliers augment the value of products with services and the customer's role in value creation is limited to "value in use." In other hybrids, customers are involved in more extensive collaboration.

This study hypothesizes that there is a continuum of the level of value co-creation that extends from transactional exchange (zero value co-creation) to pure relationship (equal value co-creation). And the study hypothesizes that at each point along the continuum there is the need for a distinct set of facilitating marketing activities. (Stone, 1969)

Academic literature has several transaction-to-relationship continua. One is based on the duration of the relationship (Webster, 1989). Another is based on the level of profitability of the relationship (Zeithaml, et al., 2002). And another is based on the number of parties involved in the relationship (Storbacka, 2004). But so far none have been based on the level of value co-creation.

Figure 1 presents the hypothesized continuum of levels of customer-supplier relationships. The continuum begins with a purely transactional relationship with no co-creation of value. The next level is that of credible source in which the supplier augments the basic product or service with information that the customer engages in using. The third level is that of a problem solver relationship in which customer and supplier cooperate to solve the

customer's operational problems involving the supplier's products or services. The fourth level is trusted advisor status in which customer and supplier collaborate on problems beyond the supplier's specific offerings. And the fifth level is a strategic alliance in which collaboration between customer and supplier reaches beyond current operations and issues to the creation of new opportunities and solutions to newly defined problems.

**Figure 1: Levels of Buyer-Seller Relationships (Johnston, 2013)**



This study also hypothesizes that customers and suppliers might have very different views of any give relationship. To test this hypothesis and to develop models of how supplier marketing activities facilitate customer assessment of the level of a given relationship a study of buyer-seller dyads was conducted.

The dyads in the study were the customer relationships of a large manufacturer of food machinery (LMFM) that designs, manufactures, installs, and supports the on-going operation

and maintenance of vegetable canning lines (e.g., tomato canning lines, refried beans canning lines, et al.)

The unit of analysis was the dyadic relationship between the supplier and each vegetable canning plant. Major food processing companies like Con Agra, Campbell's Soup, Nestles, et al. each have several plants that focus on different kinds of vegetables and that are located in proximity to the various locations in which the vegetables are grown. (For example, concentrations of plants are found in California, the Midwest, the Northeast, the Southeast.) Decisions about which systems to install and which suppliers are used for maintenance products and services, as well as which suppliers to consult on problem solving projects are all made at the plant level.

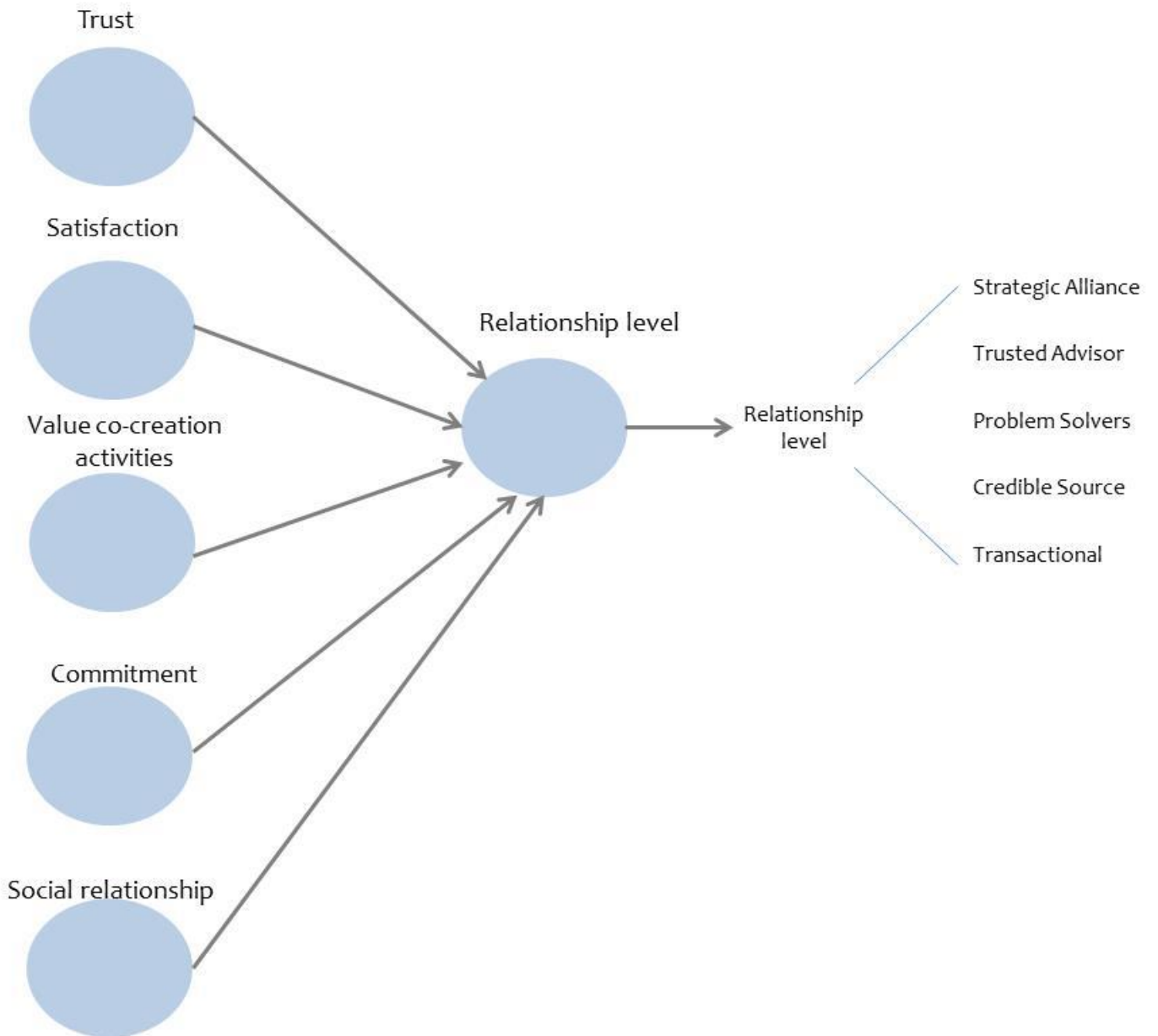
Data were obtained through two web-based surveys. One was designed to be completed by "the person at the plant who is most knowledgeable" about their relationship with the supplier. The other survey was designed to be completed by the internal employee of the supplier company who is "most knowledgeable about the relationship with the customer."

One hundred and two responses were obtained and matched into 51 dyads.

It was hypothesized that the customer's assessment of the relationship would be a function of five constructs: Trust, Satisfaction with the Relationship, Supplier investment in a specific list of marketing activities, Commitment to the Relationship, and the supplier's investment in developing social relationships with the buyer. Figure 2 diagrams the hypothesized relationship between these five constructs and the customer's assessment of the relationship along the five level continuum of customer-supplier relationships.



Figure 2: Hypothesized Conceptual Model



The study did not validate the hypothesized relationship between three of the constructs and the customer's assessment of the level of relationship. It was found that in these relationships involving very technical, highly engineered production systems, social relationships

did not play a big role. It was also found that Trust and Satisfaction with the Relationship were not related to the customer's assessment of the level of relationship.

The finding that Trust and Satisfaction with the Relationship did not to play a significant role in the customer's assessment of the level of the relationship was different from past studies that have shown that the ***Quality of Relationship*** is a function of Trust, Satisfaction with the Relationship, as well as Commitment to the relationship.

Because the study's surveys included measures of the ***Quality of the Relationship***, it was possible to create models that replicated the past literature. It was found that in this study's data, ***Quality of the Relationship*** was a function of Trust, Satisfaction with the Relationship as well as Commitment. This study's findings were new in the sense that they replicated the finding with new, behaviorally anchored measures.

The study did, however, validate that the customer's assessment of the level of the relationship was a function of Commitment and of a construct consisting of a series of Value Co-creation Facilitating Marketing Actions. The measures of both of these constructs are behaviorally anchored—that is, they are measures of marketing activities that a supplier can choose to invest in to facilitate value co-creation in their relationships with buyers.

Validation of the relationship between the customer's assessment of the level of value co-creation in the relationship with the supplier and the constructs, Commitment and Marketing Activities is a contribution to both academic literature and to managerial practice.

The demonstration that the model of the customer's view of the level of value co-creation in the relationship is orthogonal to the assessment of the quality of the relationship is also a valuable learning. This finding means that customers can be completely satisfied with the quality of relationship at any point along the level of value co-creation continuum. That is,

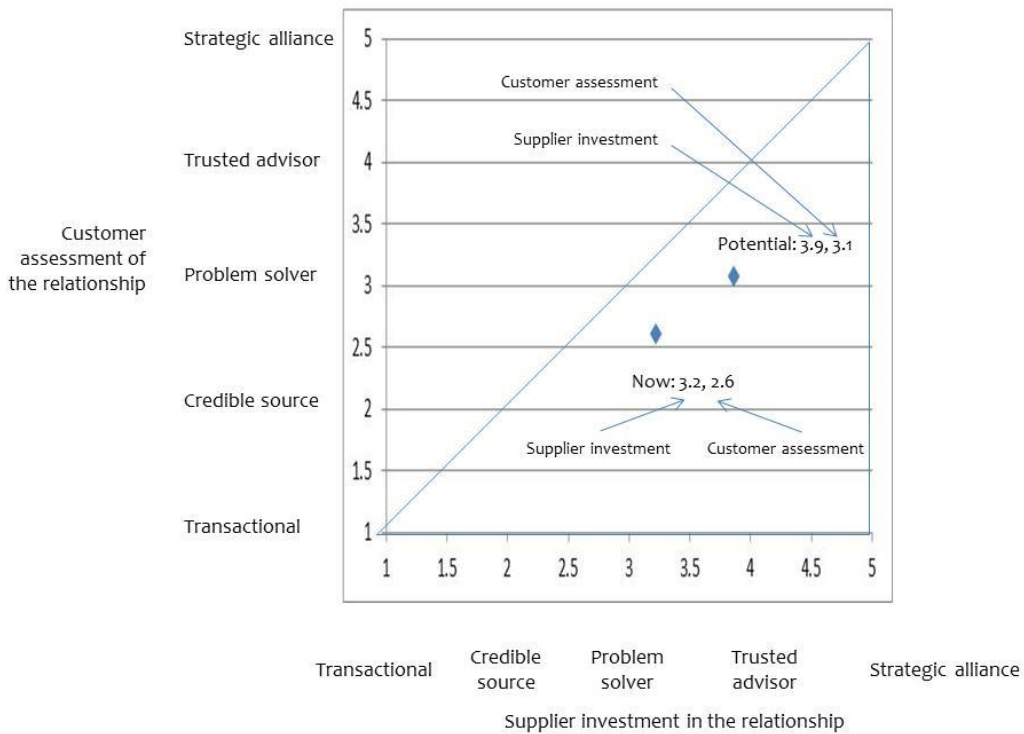
they can be as happy with a Transactional relationship as with a Strategic Alliance—if that level of value co-creation is what they need and want.

The study also developed a model of the supplier's assessment of the level of value of co-creation as a function of their level of investment in that relationship.

Because the study collected dyadic data—customer and supplier assessments of the same relationship—it was possible to create a model that explained the differences between the customer's and the supplier's assessment of the level of value co-creation as a function of differences in their assessments of the supplier's marketing activities and investments.

Results of the dyadic data model were plotted on the graph depicted in Figure 3. It shows the customer's assessment of the level of value co-creation on the y-axis and the level of supplier investment on the x-axis. The point labeled "Now" shows the current assessments and the point labeled "Potential" shows where customer and supplier envision the relationship in two or three years.

Figure 3: Plots of current and potential assessments of the customer view of the relationship and the supplier's investment in the corresponding relationship



The  $45^{\circ}$  line in Figure 3 shows a state in which the customer's assessment of the relationship is exactly equal to the supplier's investment. Presumably this would be a state of equilibrium. Drawing a line that shows the slope of the evolution from current to predicted relationship shows that in this study's data set, rather than converging to the equilibrium line (the  $45^{\circ}$  line on which the customer's assessment equals the supplier's assessment) the relationships were actually diverging from the equilibrium line.

Follow up interviews with three supplier respondents uncovered that the supplier was not segmenting their customer base. Their presumption is that higher levels of value co-creation are desirable in all cases. Given the level of resources required to move up the value co-creation continuum for a specific relationship, this general increase in relationship level would be impractical. And considering the finding that the quality of the relationship is a function of meeting customer expectations, not necessarily increasing the level of value co-

creation, there appears to be an opportunity to segment the customer base, focus resources on increasing the level of value co-creation in those accounts that are receptive and desirous of this level of relationship and at the same time reduce investment in those relationships where a lower level of value co-creation is appropriate and desired by the customer.

It is encouraging that the mean level of relationship desired by the customers is virtually the same as the current level of investment by the supplier. This suggests that the supplier does not need to increase resources invested on average, rather, it needs to reallocate these investments across customers.

This reallocation of resources to better meet customer expectations and in the process to increase the total value co-created by the entire customer portfolio is what is meant by "Optimizing marketing activities for different levels of customer relationships."

Because the measures of this study's constructs are behaviorally anchored, it means that the findings can help suppliers choose the level of investment and the specific activities that are appropriate for each of their customer relationships.

This dissertation promises to help suppliers make these choices. And it certainly keeps that promise for the specific supplier involved in the 51 dyads in its data base. It also provides a nomological basis for hypothesizing how suppliers can go about making these choices in general.

The balance of this dissertation is organized into the following chapters:

## **Chapter 2: Literature Review**

This chapter traces the evolution from transaction marketing to relationship marketing, the contribution of services marketing, the recent developments in the co-creation of value and past work to quantify relationship models.

**Chapter 3: Conceptual Model**

This chapter defines the concepts and sets out the hypotheses about the models and their implications.

**Chapter 4: Methodology**

This chapter describes the research setting, the procedures of data collection, and the labyrinthine process of using SPSS and SmartPLS to validate models and findings.

**Chapter 5: Results and Discussion**

This chapter discusses the findings about the study's models and hypotheses.

**Chapter 6: Conclusion**

This chapter outlines the contributions to theory and to managerial practice and discusses limitations and implications for future research.

**Appendices:**

This section contains questionnaires and graphic analyses.

**References**

This section of the dissertation documents the literature which the present work builds on.

## LITERATURE REVIEW

Co-creation of value by buyer and seller is an important topic in academic research today that has deep roots in the evolution of marketing.

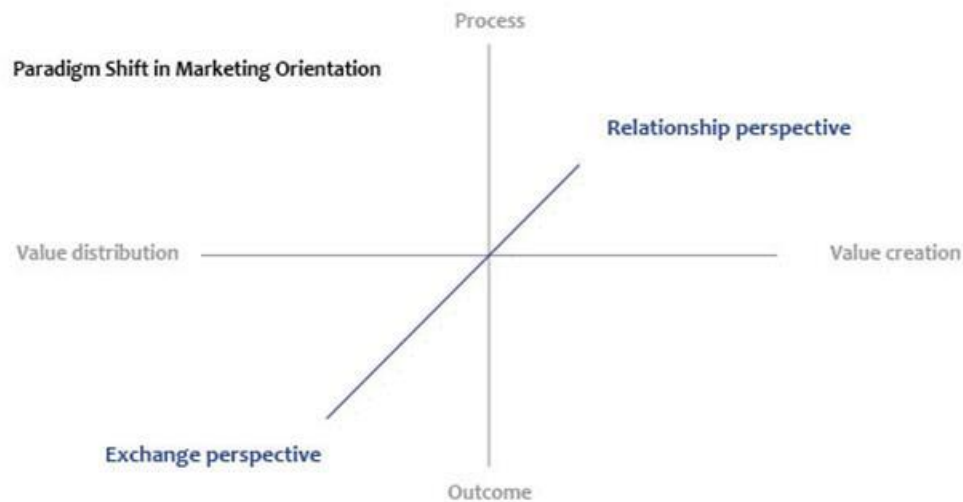
Historical reviews explain that marketing is the modern descendent of micro-economics which viewed value as being created solely by the supplier and exchanged for a market determined price paid by the buyer. (Vargo & Lusch 2004, Webster 1992)

The advent of services marketing and relationship marketing (Berry, 1983, Dwyer, Shurr, & Oh 1987) focused attention on the buyer's role in the creation of value. Even in arm's length exchanges of product for price, the buyer is required to use the product to realize its value. And in more complex interactions, buyers and sellers must collaborate to co-create value. (Lovelock, 1981)

Sheth and Parvatiyar (1995) refined the idea of co-creation of value by buyer and seller explaining that post-industrial management and technological practices require marketing to evolve "to explain the growing marketing phenomena of collaborative involvement of customers in the production process."

Figure 4 illustrates how Sheth and Parvatiyar (1995) describe this evolution as moving from an exchange perspective to a relationship perspective on two dimensions: first evolving from "value distribution" to "value creation" and second, from "outcome" focus to "process" focus.

Figure 4: Evolution from an exchange perspective to a relationship perspective (Sheth and Parvatiyar, 1995)



And later Sheth and Parvatiyar (2000) pointed out that “the phenomenon of cooperation and collaboration with customers become(s) the dominant paradigm of marketing practice and research.” (Sheth and Parvatiyar, 2000, p 20.) In the B2B domain, this paradigm of value co-creation is translated into specific marketing activities by Coviello, Brodie, Danaher, and Johnston (2002) who identify the supplier’s marketing activities required to facilitate conditions for collaboration and co-creation of value.

The balance of this literature review discusses four important dimensions of the knowledge foundations on which this study builds. These dimensions are:

1. The value co-creation continuum
2. Evolution of value co-creation literature
3. Linking marketing activities to relationship results
4. Measurement of relationship quality



## II.I The Value Co-Creation Continuum

Most articles on relationship marketing study the differences between two extremes: transactional (exchange) marketing versus relationship marketing. Dwyer, Shurr, & Oh's (1987) Table 1 from their classic article is typical. It compares transactional exchanges to relationship marketing on twelve dimensions.

**TABLE 1**  
**A Comparison of Discrete Transactions and Relational Exchange\***

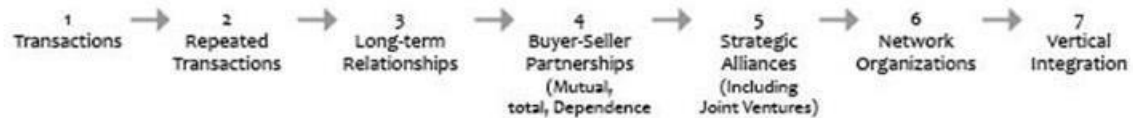
<b>Contractual Elements</b>	<b>Discrete Transactions</b>	<b>Relational Exchanges</b>
<b>Situational Characteristics</b>		
Timing of exchange (commencement, duration and termination of exchange)	Distinct beginning, short duration and sharp ending by performance	Commencement traces to previous agreement, exchange is longer in duration, reflecting and ongoing process
Number of parties (entities taking part in some part of the exchange process)	Two parties	Often more than two parties involved in the process and governance of exchange
Obligations (three aspects: sources of content, sources of obligation, and specificity)	Content come from offers and simple claims, obligations come from beliefs and customs, (external enforcement), standardized obligations	Content and sources of obligations are promises made in relation plus customs and laws; obligations are customized, detailed and administered within the relation
Expectations for relations (especially concerned with conflicts of interest, the prospects of unity, and potential trouble)	Conflicts of interest (goals) and little unity are expected, but no future trouble is anticipated because cash payment upon instantaneous performance precludes future interdependence	Anticipated conflicts of interest and future trouble are counterbalanced by trust and efforts at unity
<b>Process characteristics</b>		
Primary personal relations (social interaction and communication)	Minimal personal relationships; ritual-like communications predominate	Important personal, noneconomic satisfaction derived; both formal and informal communications are used
Contractual solidarity (regulation of exchange behavior to ensure performance)	Governed by social norms, rules, etiquette, and prospects for self gain	Increased emphasis on legal and self-regulation; psychological satisfactions cause internal adjustments
Transferability (the ability transfer rights, obligations, and satisfactions to other parties)	Complete transferability; it matters not who fulfills contractual obligation	Limited transferability; exchange is heavily dependent on the identity of the parties
Cooperation (especially joint efforts at performance and planning)	No joint efforts	Joint efforts related to both performance and planning over time; adjustment over time is endemic
Planning (the process and mechanisms for coping with change and conflicts)	Primary focus on the substance of exchange; no future is anticipated	Significant focus on the process of exchange; detailed planning for the future exchange within new environments and to satisfy changing goals; tacit and explicit assumptions abound
Measurement and specificity (calculation and reckoning of exchange)	Little attention to measurement and specifications; performance is obvious	Significant attention to measuring specificity, and quantifying all aspects of performance, including psychic and future benefits
Power (the ability to impose one's will on others)	Power may be exercised when promised are made until promises are executed	Increased interdependence increases the importance of judicious application of power in the exchange
Division of benefits and burdens (the extent of sharing of benefits and burdens)	Sharp division of benefits and burdens in parcels; exclusive allocation to parties	Likely to include some sharing of benefits and burdens and adjustments to both shared and parceled benefits and burdens over time

Several articles have posited degrees of relationships along a continuum from arm's length transactional exchanges on the one hand, to highly collaborative strategic alliances on the other. Seven of these continua are relevant to this study. (Coviello, Brodie, Danaher, Johnston 2002)

Figure 5 presents an early continuum with seven points along a range of marketing relationships. On one extreme are transactions characterized by buying and selling performed in discrete exchanges determined by exogenous forces in the market place. The focus on this end is the product. All information is contained in the price. Marketing's role is to track and respond to the exogenous forces. (Webster, 1992)

Figure 5:

### The Range of Marketing Relationships (Webster, 1992)



As soon as transactions become repeated exchanges, marketing can influence the exchanges through negotiations and relationships between firms—though the relationship remains adversarial and market forces are still dominant.

Moving down Webster's continuum, interdependence and cooperation wrest control of the exchanges to a great extent from market forces and "mutual trust replaces the adversarial assumptions." Adam Smith's invisible hand still pressures and creates limits for the exchanges, but final design of the exchanges is given over to the very visible hands of buyer and seller personnel.

At the strategic alliance point in Webster's continuum, buyers' and sellers' strategic purposes take the lead in designing exchanges. And at the network organization point, strategic alliances are formed with multiple entities.

Stages 1 (Transactions), 4 (Partnerships), and 5 (Strategic Alliances) correspond to the respective steps in the Value Co-creation Continuum that is used in the present study. However, stages 2 (repeated transactions) and 3 (Long-term relationships) describe the longevity of the relationship rather than intermediate levels of value co-creation. Hence our Value Co-creation Continuum replaces these steps. (Webster 1992)

A second continuum, Grönroos (1995) developed the idea that as a seller moves along the relationship continuum it must invest increasing levels of resources in interactive marketing, functional quality, internal marketing, and information systems to permit direct management of relationships. Market forces as measured indirectly by metrics like market share fade in importance. This study's Value Co-creation Continuum calibrates the five stages of investment. (Grönroos1995)

Figure 6 depicts a third continuum, *the customer pyramid* arranges customers on a continuum of profitability. The customer pyramid was created by Zeithaml, Rust, and Lemon (2001). Their main proposition was that companies should set clear priorities among their customers and allocate resources that correspond to these priorities. More than just airline frequent flyer categories, the tiers of the pyramid reflected customer profitability as a function of ROI including duration, usage, cross-buying, and cost to serve.

Figure 6:  
The Customer Pyramid. Zeithaml, Rust, Lemon (2001)



Subsequent studies showed that prioritizing customers based on profitability in this way increases supplier profitability while at the same time does not have a deleterious effect on buyer satisfaction. (Homburg, Christian, Mathias Droll, and Dirk Totzek 2008; Gupta and Lehmann 2003; Hogan, Lemon, and Rust 2002). And key to achieving optimal results was shown to be moderated by the supplier's ability to "assess customer profitability, the quality of customer information, selective organizational alignment, selective senior-level involvement, and selective elaboration of planning and control." To manage "the customer asset," the seller needs an in-depth understanding of the underlying sources of value derived from current customers and how to increase the revenue streams to enhance firm performance (e.g., Hogan, Lehmann, et al. 2002; Zeithaml 2000) (Gupta and Lehmann 2003; Hogan, Lemon, and Rust 2002). Mayser, Sabine, and Florian von Wangenheim. "Perceived Fairness of Differential Customer Treatment Consumers' Understanding of Distributive Justice Really Matters." (2013)

One of the present study's findings, that the quality of the relationship is orthogonal to the level of value co-created is consistent with and explained by these studies.

Figure 7 depicts a fourth continuum of the co-creation of value by buyer and seller that was posited by Sobel and Sheth (2001) in describing the stages of professional service relationships development. In this continuum the first stage is the provision of professional services in an arm's length transaction. In the second stage, the professional service provider uses knowledge of the client's business to enhance the level of value co-creation, And in the third stage, value co-creation is enhanced even further in the creation of a true intellectual partnership.

**Figure 7: Sobel and Sheth's (2001) stages of professional service relationships**



This study's Value Co-creation Continuum model is informed by the description of the behaviors that characterize each of Sobel and Sheth's levels.

Figure 8 presents a fifth continuum that influenced this study's model. was the three stages of value selling from Kaario, Pennanen, Storbacka, and Mäkinen's book *Value Selling* (2003).

Their continuum presents stages of value selling: first, product-based value, second, solution-based selling value, and third, value co-created with the customer in what they call *customer process innovation*.

Figure 8: Different sales strategies require different contacts and discussion items with the customer

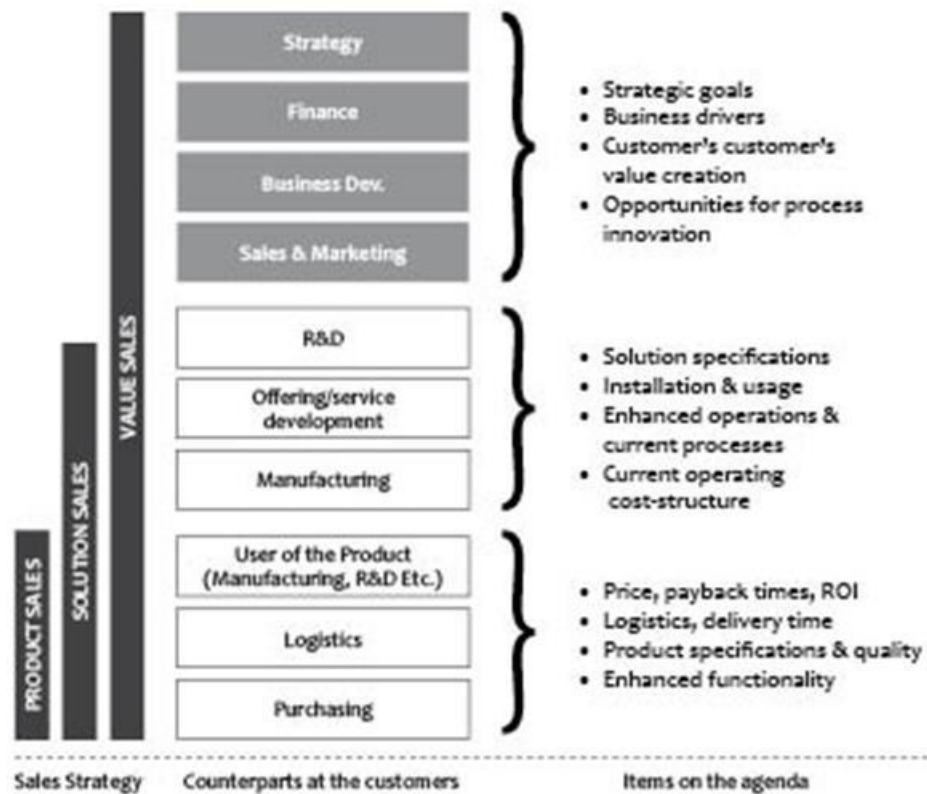


Figure 8 depicts frameworks and tools for executing all three strategies. It describes introduce the rubric of a "relationship concept" which answers three key questions: " **Whom** does the provider want to work with? **What** is offered to the selected customers and **how** are the customer relationships managed?"

Concerning the **whom**, the authors distinguish both the nature of the contacts and the discussion items as follows:

Concerning the **what**, the authors elaborate on a useful focus for each strategy: "Product sales supports the customer's purchasing process. Solution sales supports the customer's usage process. And Value Sales process supports the customer's business processes."

And concerning the **how**, they recommend different operating models, for each of the three strategies.

The authors elaborate on the competencies required for implementing *Customer Process Innovation* that are quite different from those required by product and solution sales:

Understanding value chain dynamics, understanding the customer's business drivers and processes, understanding the supplier's own organization's capabilities, the ability to proactively identify opportunities for customer process innovation, and the ability to mobilize resources.

And they describe how to quantify business impacts and to capture a fair share of the value created for the supplier firm.

This study's Value Co-Creation Continuum borrows many of the behaviors they prescribe for the three strategic levels of value.

Table 2 presents the sixth relationship continuum that influenced this study's model, namely, Hedaa, Laurids, and Ritter's five "waves" of marketing thinking:

Table 2  
Characteristics of the 5 Waves of Marketing Thinking

Wave	Orientation	Sales arguments	Sales slogan	Theories
1	Competence (production)	Production methods, machinery, materials, (core) competencies, ISO/DIN certification, efficiency	We produce what we can	Operations management
2	Offering (product)	Quality, functions, durability, maintenance, use, construction details, product specifications, metrics: size, number of customers	We sell what we produce	Economy (supply/demand)
3	Solution (sales)	Customer specifications, adapted products, order plans, length of contracts, negotiated prices and competence, delivery: timing, packaging, general	We produce what customers buy	Marketing mix, segmentation
4	Problem	Frequency of contacts, duration of contracts, trust, mutual obligations, commitments, development, investments, entry and exit (switching) costs, interdependencies, social exchange, vulnerability, information, boundary spanners (roles, norms, motivation), key account management, partnering	We solve individual customers	Interaction relationship
5	Network	Supply network management, outsourcing, in- organizations, customers' customers, suppliers' alliances, co-operation and competition, consortia, efficiencies, strategic networks, complexity,	We are a part of a system	Network theory

(Hedaa, Laurids, and Thomas Ritter 2005)

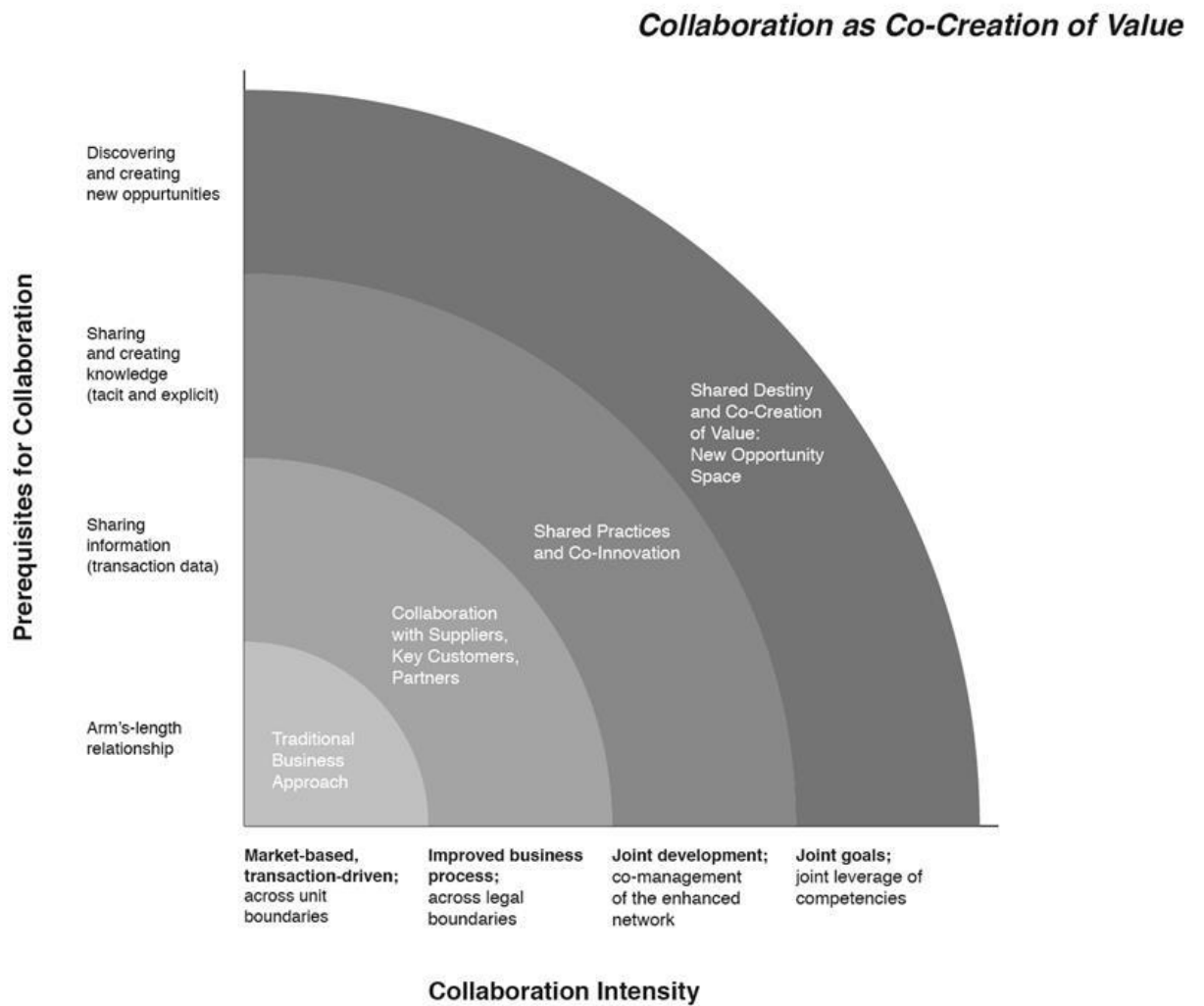
While the five waves do not correspond directly to this study's five stages of value co-creation, the "sales arguments" that define the five waves include important value co-creation behaviors that are used in this study's measurements.

Figure 9 presents the sixth continuum, namely, Prahalad's and Ramaswamy's (2004) continuum that depicts four stages the intensity levels of co-creation of value. Their four stages are:

1. Market-based transactions
2. Improved business processes across organizational boundaries
3. Joint development of capabilities
4. Joint leverage of the supplier's and the customer's combined competencies.



Figure 9: Intensity levels in the co-creation of value



From Prahalad, Coimbatore Krishnarao, and Venkat Ramaswamy. "The future of competition." Harvard Business School Press, Boston, MA (2004) page 200

The vertical axis describes prerequisites for collaboration which at each stage are:

1. Arm's length relationship
2. Sharing transaction data
3. Sharing and creating a broader range of information
4. Jointly discovering and creating opportunities

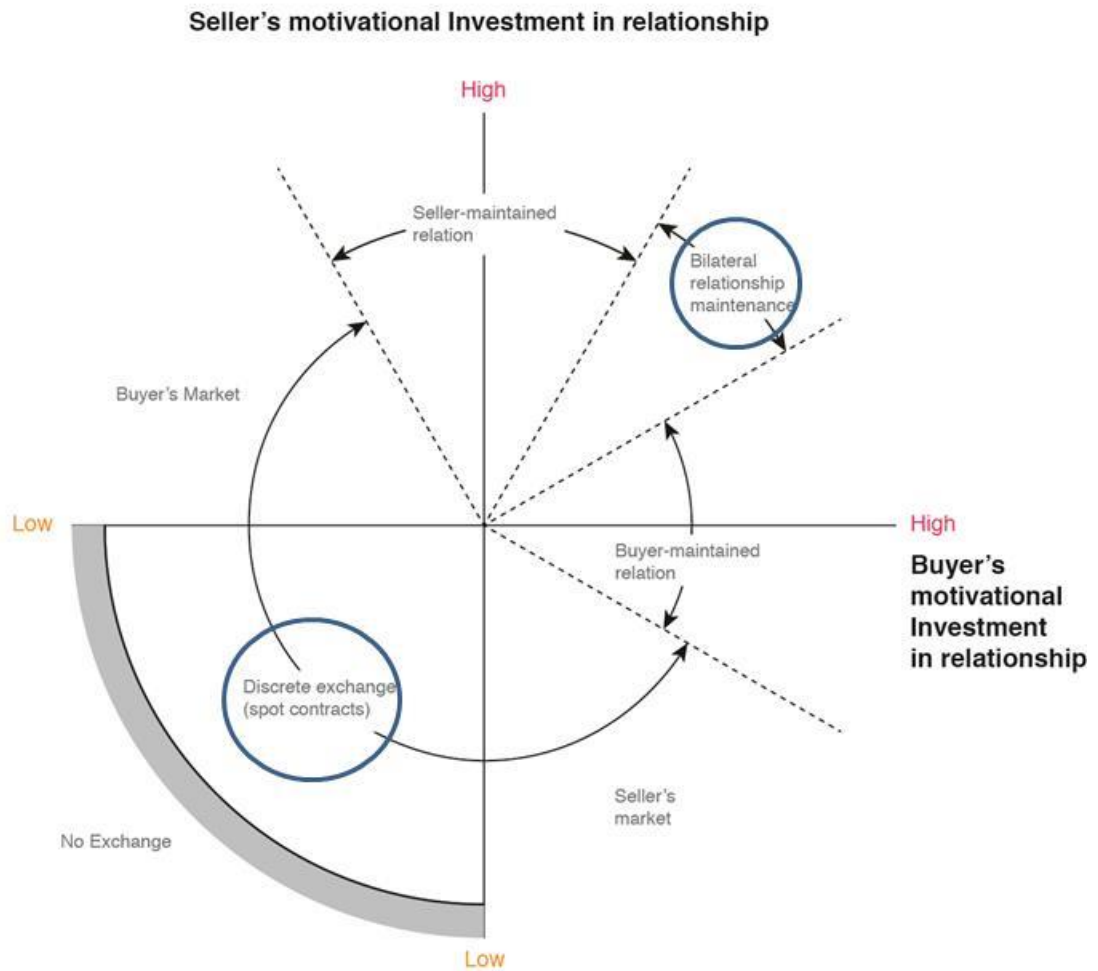
This study gathers data to measure the relationship between information sharing and joint problem solving on the one hand and the level of intensity of co-creation of value on the other.

Figure 10 depicts the seventh continuum, namely, Dwyer Schurr, and Oh's (1987) continuum of the motivational investment of supplier and customer, respectively, in the relationship. It shows the antipodes being discrete exchange in the lower left hand quadrant (neither party is motivated to invest in the relationship) versus bilateral relationship in the upper right hand quadrant (both parties are highly motivated to invest in the relationship). Intermediate positions are cases where one party is motivated to invest and the other is not.

This study gathers data on each party's motivation to invest and actual investment in the relationship, and relates these levels of investment to the stage in the value co-creation continuum.

Figure 10: Levels of investment in the co-creation of value

&lt; The Hypothesized Realm of Buyer-Seller Relationships &gt;



From Dwyer, F. Robert, Paul H. Schurr, and Sejo Oh. "Developing buyer-seller relationships." *The Journal of marketing* (1987): page 15.

## II.II Summary of Continua Literature

In addition to helping define this study's Value Co-Creation Continuum model, the seven continua were encouraging in three ways: First, they legitimized the idea that relationships vary along continua (as opposed to being one of two dichotomous types (transaction or relationship)). Second, they suggested constructs and measures for the present study to

quantify. Third, they did not focus specifically on the idea that a supplier could maintain and manage a portfolio of customer relationships simultaneously. Thus, they define a knowledge gap.

### **II.III Value Co-Creation**

Gary Becker presaged the modern study of value co-creation when he modeled the economic value of the private household. He described: "The household is a value producing unit which obtains products and services it uses to create value." To Becker, products and services, rather than embodying value, were the gubbins that the householder assembled and used in the creation of "value in use," as it came to be called. (Becker 1965)

Services marketing was also an early proponent of value co-creation. Len Berry in the early 80's defined a service as "a bundle of benefits that is simultaneously produced and consumed." He went on to describe the integral involvement of the customer in the consumption of services. He wrote, "For services, the customer is standing in your 'factory,' helping you create your benefits." (Berry 1983, 1995)

The shift from exchange to value co-creation changes the focus from competitive, adversarial negotiations between buyer and seller over the division of value, to cooperative expansion of value through collaboration (Alderson 1965, Kohn 1992, Prahalad and Ramaswamy 2004). It focuses buyers and sellers on collaborative problem solving. Even collaboration in defining the problems to be solved in co-creating the voice of the customer is part of value co-creation. (Jaworski and Kohli 2006)

Prahalad and Ramaswamy (2004) assert that co-creation of value is changing the nature of competition in our modern economy. They state that our economy is evolving from a company-centric view of value creation, in which value is embedded in products and services

which are exchanged for market-determined prices. They say we are evolving to the co-creation of value by customer and supplier through creative problem solving interactions. In this new paradigm, shares of economic value (price) are determined through negotiations of the people involved rather than through the invisible hand of market forces.

Prahalad and Ramaswamy (2004) state that co-creation of value takes place at points of interaction between or encounters of the supplier and the customer. They define four building blocks of co-creation of value in their DART model.

The **DART** model—building blocks of co-creation of value:

**D is for Dialogue**— Issue focused, problem-solving dialogue is the cornerstone of co-creation of value. This dialogue requires a forum (like joint task forces or user communities) and rules of engagement (like the rules for adding to Wikipedia).

**A is for Access**—Access is the decoupling desirable experiences from ownership (like NYC bicycle rentals). The logical extension is an auto lease that grants access to an SUV on Saturday and a luxury sedan on Friday evening. Print-on-demand is another example that grants access to book publishing for a few hundred dollars.

**R is for Risk Assessment**—As co-creators, customers share responsibility for risk control and for bearing the consequences of risk. (e.g., Andy Grove researched treatment options for his cancer and was actively involved in decisions, overriding medical experts who favored their respective treatment specialties.)

**T is for transparency**—Intel lets customers design their chips or their respective devices by giving customer engineers design kits. (This is an example of Access as well as Transparency. Disclosure of risks is also an example of both Transparency and Risk Assessment.)

And Prahalad and Ramaswamy (2004) describe ten aspects or characteristics of the points of interaction where co-creation of value takes place.

Ten Characteristics of the **Points of interaction** where co-creation of value takes place:

**1. The points of interaction must afford customers with choice.** Examples of the kinds of choices customers can be provided with are:

- Multiple channels—customers can choose how and where to buy and receive products and services.
- Customer-specific definitions of value—The very same products or services may afford one customer with cost savings and another with productivity enhancement. The customer's choice depends on their goals and objectives.
- Easy interactions—Some customers may want to work with a service person while others may prefer on-line chat. Some may want to do business in Mandarin, others in Spanish. Some may want the vendor's electronic information exchange protocols comply with their own IT protocols.
- The "bottom billion," that is the billion poorest people, may want packaging, price-points, and channels that give them access to products and services.

**2. Shift in the role and meaning of quality.** In the traditional, product-exchange business paradigm, quality programs focus on perfecting internal processes and offerings. In the new, co-creation of value paradigm the focus changes to improving the quality of interactions and co-creation experiences.

**3. Importance of innovation.** In the traditional, product-exchange business paradigm, innovation focuses on new offerings and production processes. In the new, co-creation of value paradigm the focus expands to collaboration to uncover new business models as well as new offerings and processes. Best practices include using experiments and adaptive learning to define completely novel businesses.

**4. Rapid resource reconfiguration and leverage of network capabilities.** In the traditional, product-exchange business paradigm, resource-based strategies as well as sense and respond strategies emphasize a supplier's ability to reconfigure its internal capabilities. In the new, co-creation of value paradigm the focus expands to the leverage of not only the supplier's capabilities, but also the customer's capabilities as well as those of third parties that are included in the supplier's and the customer's business networks. Best practices include rapid resource reconfiguration of the expanded set of capabilities.

**5. Six sigma's role.** Six sigma takes variability (error) out of processes, whereas Co-creation of value requires variability in experiences. Six-sigma still plays an important role in the co-creation of value paradigm by reducing errors in the underlying enabling processes. However, the goal of collaboration between supplier and customer remains developing unprecedented capabilities which are at their base variances from the past and often can be disruptive.

#### **6. Information system's role**

In the traditional, product-exchange business paradigm, IT systems focus on providing information about products and processes. In the new, co-creation of value paradigm best practices call for IT systems to focus on the events that comprise the encounters of customer and supplier with real time information Prahalad and Ramaswamy provide the

example of a hospital's emergency room where patient and hospital staff work together to address a medical emergency event. IT systems need to provide relevant real time information, in contrast with IT systems that report on hospital operations.

### **7. Role of strategy**

In the traditional, product-exchange business paradigm, analysis of Porter's five forces generate strategic issues and options for the supplier to take in an essentially static industry situation. In the new, co-creation of value paradigm best practices call for collaboration between customer and supplier to develop innovative solutions based on unprecedented industry factors. Strategy becomes a process of innovation and discovery. The supplier cannot innovate and discover by themselves. The larger business network provides a greater range of knowledge, expertise, and resources. And there is a shift of emphasis from maximizing advantage in the short run to creating a long-term, multi-period, multi-transaction environment that has a continued access to competence, resources and competitive advantage.

### **8. Role of brand**

In the traditional, product-exchange business paradigm, brand is an attribute of the product. In the new, co-creation of value paradigm the experience is the brand. Brand is co-created by the supplier and customer. The American Girl experience in which multiple generations in a family each contribute to the creation of meaningful experiences involving the supplier's products and services.

### **9. Role of customer satisfaction**

In the traditional, product-exchange business paradigm, the supplier manufactures products and delivers service and the customer receives benefits at arm's length. Customer satisfaction is the customer's assessment of whether their expectations were



met. In the new, co-creation of value paradigm the supplier and customer collaborate in defining and co-creating expectations of event-centric experiences.

### **10. The centrality of the individual.**

In the traditional, product-exchange business paradigm, top management is responsible for setting strategy and organizing resources and line management is responsible for execution.

In the new, co-creation of value paradigm there is organization-wide responsibility for evolving strategy, for active learning and adaptation in both organizations at all levels.

Recent articles dealing with value co-creation adopt what they call a "service and service logic perspective." (Vargo, Maglio, and Akaka 2008, Grönroos, 2011, 2007) According to these authors, relationship marketing is a process of making and keeping promises. The role of marketing is extended beyond the traditional making of promises through the definition of value propositions, to the keeping of promises through coordinating all the organization's departments involved in delivering service through interactions with buyers. (Brown, 2005)

The notion of segmentation of relationships is part of this discussion. Buyers have different expectations about the problems they want to collaborate with the seller in solving as well as preferred means of interacting with the seller. (Dimitriadis, and Stevens 2008)

The creation of value occurs in supplier-customer encounters and customer-supplier relationships are developed and managed through interaction and dialogue. As early as Shostack (1984) encounter mapping was seen as a key tool for managing interactions and facilitating co-creation of value. More recent discussions of encounter mapping add the notion of encounters occurring and evolving over time. These more recent discussions of mapping view relationships as longitudinal.

Figure 11 depicts how Payne, Storbacka, and Frow (2008) describe the supplier-customer encounter process as the supplier's facilitation of customer learning.

**Figure 11:**

Model of customer learning process (The supplier must document a specific learning process comprised of the following):

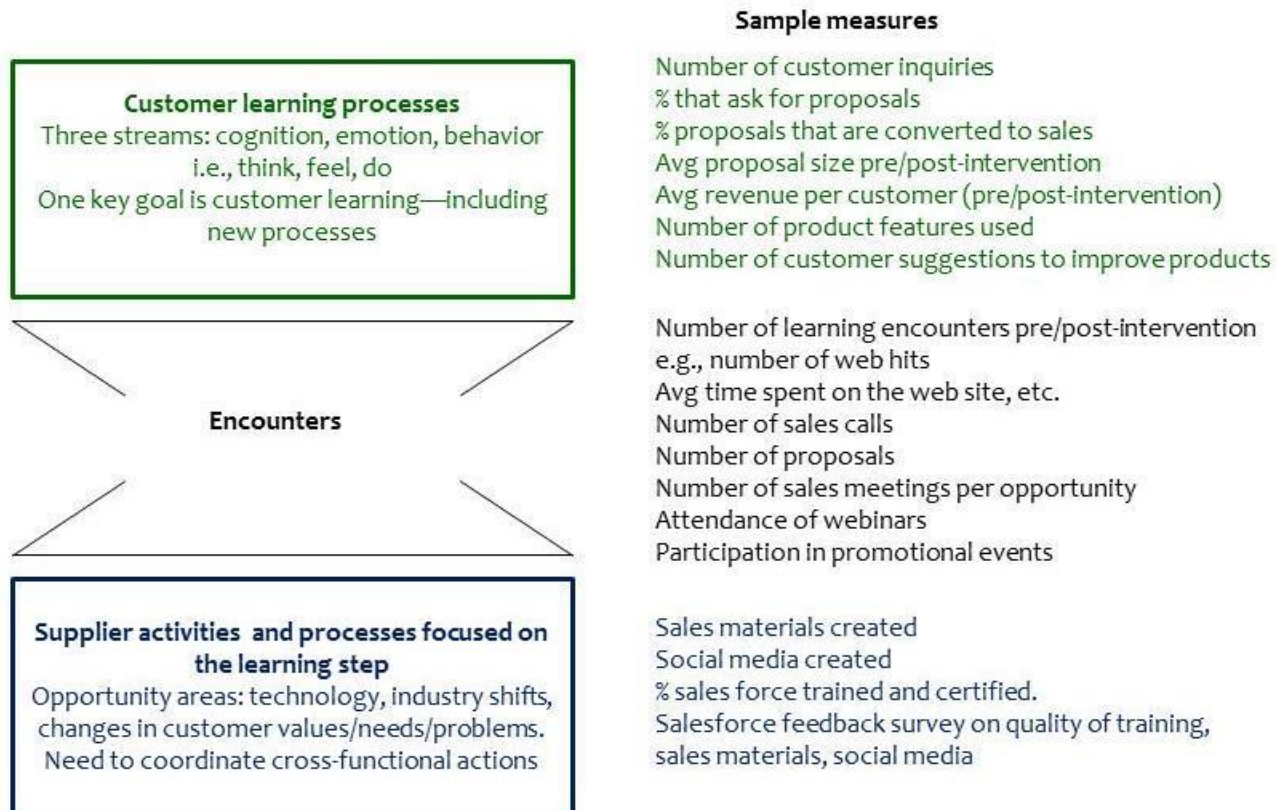


Figure 11 shows that the supplier needs to understand three dimensions of customer learning: how customers think (cognition), how they feel (emotion), and how they act (behavior). Suppliers then need to organize their knowledge management activities and infrastructure around identified value co-creation encounters. Keys to success include:

Designing the encounter to facilitate customer learning.

Mapping encounters to identify opportunities, failure points, service enhancements.

Supporting differentiation of both supplier offerings and the effect of the supplier-customer relationship.

(Payne, Storbacka, and Frow 2008, pages 83-96)

The management of supplier-customer encounters to facilitate learning is similar to Ronald Heifetz (1994) description of leadership as the mobilization of adaptive behavior.

#### **II.IV Summary of Value Co-Creation Literature**

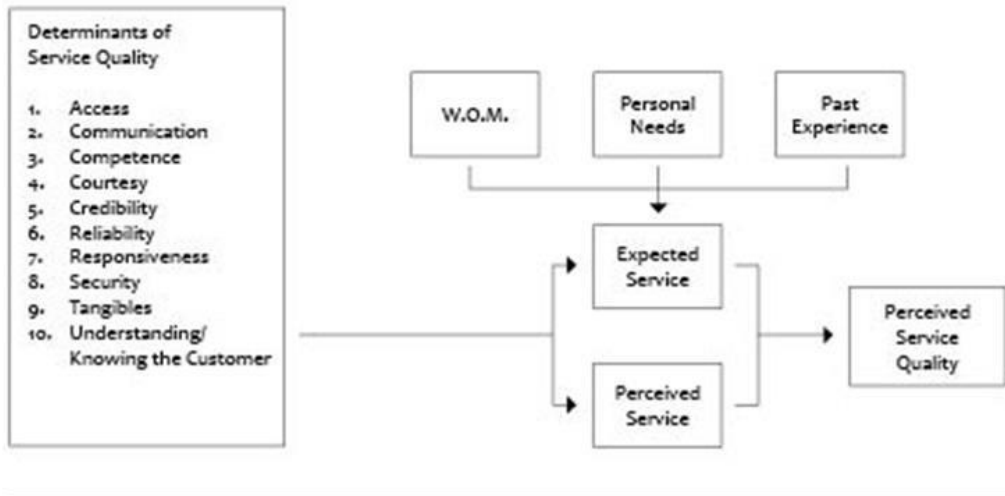
The descriptions of the differences between exchange and value co-creation models of marketing provide a rich list of distinctions that we can hypothesize mark the differences between levels of co-creation relationships. For example, the idea of making and keeping promises suggests that trust and integrity may be important correlates of the relationship levels. Problem solving as an important component of value co-creation suggests that the degree to which buyers and sellers are involved in problem solving interactions may be an important component. Openness and transparency between buyers and sellers suggests the degree of information sharing may be a correlate. And the notion that buyer-seller relationships may be segmented encourages us to hypothesize that these relationships fall along a continuum.

#### **II.V Relationship Quality**

We did not find articles in which data are collected to validate the distinctions between relationships based on exchange versus those based on value co-creation. But we did find a many articles that quantify the components of the quality of buyer-seller relationships.

A Conceptual Model of Service Quality was published by Parasuraman, Zeithaml & Berry in 1985. Figure 12 presents the constructs and measures that they call the RELPERF model.

**Figure 12:**  
**Determinants of Perceived Service Quality**



(Parasuraman, Zeithaml, and Berry1985)

The RELPERF model in Figure 12 includes a number of measures under the heading of Determinants of Service Quality that are relevant to our level of value co-creation continuum model.

Additional measures of the quality of buyer-seller relationships were defined and validated by the model created by Lages, Lancaster, and Lages (2008). This model borrows constructs and measures from five previous articles as follows:

The "Policies and Procedures" construct relates to how easy it is to do business together. Measures of this construct are taken from Sirdeshmukh, et al. (2002).

The "Commitment" construct relates to attitudes about the relationship being a long term partnership that each party wants to have it continue into the future. Measures of this construct are taken from Nirmalya Kumar et al. (1995).

The "Trust" construct relates to each party having confidence in the other's integrity. Measures of this construct are taken from Morgan & Hunt (1997).

The "Mutual Cooperation" construct takes its definition from Anderson & Narus (1990) as "complementary coordinated actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocation over time."

Measures of this construct are taken from Hewett & Bearden (2001).

The "Relationship Satisfaction" construct represents the evaluation of all previous interactions compared to expectations. Measures of this construct are taken from Cannon & Perreault (1999)

A larger relationship scale, the RELQUAL scale (Payan, Svensson, and Hair 2010) replicates the previous two models and makes three changes:

First, "Policies and Procedures" is modified into a more general construct, "Coordination" and comprises all the encounters of the customer and supplier organizations.

Second, "Cooperation" reflects a "spirit of willingness of one organization to work with another."

Third, "Specific Assets" is an additional construct defined as "dedicated activities that are tailored for use between specific organizations."

The Trust, Satisfaction, and Commitment constructs remain virtually identical to the earlier models.

## **II.VI Summary of Relationship Quality Literature**

While relationship quality is not identical to value co-creation, they are related. The discussions of the process by which these articles linked theories about relationships to measures was similar if analogous to our thinking about how to link theories about value co-creation to measures.

## **II.VII Marketing Practices**

As the definition of marketing and marketing theory has evolved from an exchange focus to a focus on the co-creation of value, market practices have evolved as well. Table 3 presents how Coviello, Brodie, Danaher, & Johnston (2002) characterize the four levels of buyer-seller relationships along nine marketing managerial dimensions:

Table 3: Four Levels of Buyer-Seller Relationships

<b>Purpose of exchange</b>	Economic Transaction	Information and economic transaction	Interactive relationships between buyer and seller	Connected relationships between firms
<b>Nature of communication</b>	Firm to mass market	Firm to targeted segment or individuals	Individuals with individuals (across organizations)	Firms with firms (involving individuals)
<b>Type of content</b>	Arm's-length, impersonal	Personalized (yet distant)	Face-to-face, interpersonal (close; based on commitment, trust, and cooperation)	Impersonal to interpersonal (ranging from distant to close)
<b>Duration of exchange</b>	Discrete (yet perhaps over time)	Discrete and over time	Continuous (ongoing and mutually adaptive, may be short or long term)	Continuous (stable yet dynamic, may be short or long term)
<b>Formality in exchange</b>	Formal	Formal (yet personalized through technology)	Formal and informal (i.e., at both a business and social level)	Formal and informal (i.e., at both a business and social level)
<b>Managerial intent</b>	Customer attraction (to satisfy the customer at a profit)	Customer retention (to satisfy the customer, increase profit, and attain other objectives such as increased loyalty, decreased customer risk, and so forth)	Interaction (to establish, develop and facilitate a cooperative relationship for mutual benefit)	Coordinate (interaction among sellers, buyers, and other parties across multiple firms for mutual benefit, resource exchange, market access, and so forth)
<b>Managerial focus</b>	Product or brand	Product/brand and customers (in a targeted market)	Relationships between individuals	Connected relationships between firms (in a network)
<b>Managerial investment</b>	Internal marketing assets (focusing on product/service, price, distribution, promotion capabilities)	Internal marketing assets (emphasizing communication, information, and technology capabilities)	External market assets (focusing on establishing and developing a relationship with another individual)	External market assets (focusing on developing the firm's position in a network of firms)
<b>Managerial level</b>	Function marketers (e.g., sales manager, product development manager)	Specialist marketers (e.g., customer service manager, loyalty manager)	Managers from across functions and levels in the firm	General manager

Their analysis showed that firms actually compete with a hybrid of transactional and relationship marketing activities. Their statistics showed that transactional marketing activities predominate in transaction focused buyer-seller interactions and relationship marketing activities predominate in relationship-focused situations.

### **II.VIII Summary of Marketing Practices**

This literature legitimizes the idea that marketing practices and behaviors should be correlated with levels of relationships. The result that the practices are a hybrid of transactional and relationship activities is due to their choice of the firm as the unit of analysis. This suggests to us that we should use the buyer-seller dyad as our unit of analysis to sharpen our results.

### **II.IX Summary of Literature Review**

The evolution from transaction marketing to relationship marketing, the contribution of services marketing, and the recent developments in the theory of co-creation of value provide a perfect context for our present study. Constructs like Trust, Satisfaction, and Commitment are carefully defined and their importance is established. The six continua from transaction to relationship marketing along different dimensions legitimize our positing of a value co-creation continuum while at the same time defining an important knowledge gap. Past work to validate quantified models of relationship quality provide exemplars for us to following in validating our qualified model of value co-creation. And the literature on contemporary marketing practices legitimizes our approach of using levels of investment in marketing activities as behaviorally anchored measures. For a marketing practitioner who has devoted years to the field this literature elucidates, this is an engaging, stimulating, and thought-provoking body of thinking that provides fertile soil for the present study.



## **CONCEPTUAL MODEL**

This chapter defines the present study's constructs and sets out the hypotheses about this study's models and their implications.

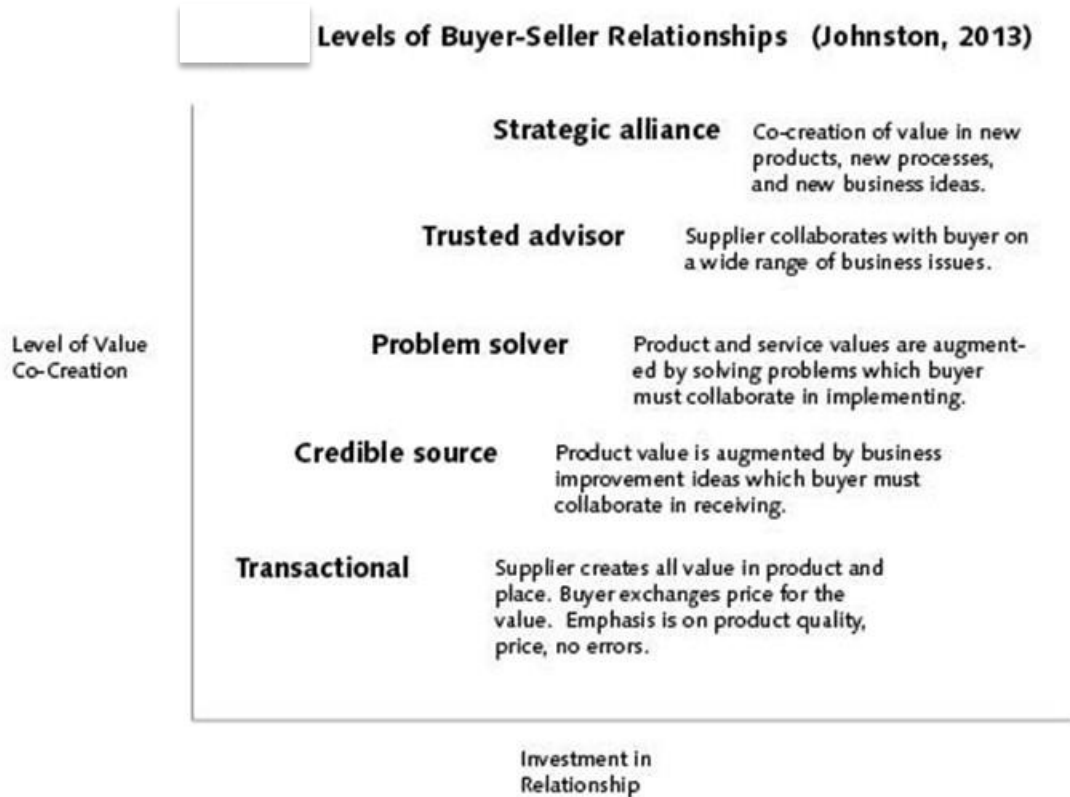
The present work builds on the extensive foundation of theories and measurements of relationship marketing, services marketing, and the co-creation of value. This foundation includes delineating the differences between exchange based transactions versus relationships, measuring the quality of relationships, and defining continua of relationships based on longevity, profitability, and the closeness of collaboration.

The present work looks at a different dimension of relationships, namely the degree to which the relationship involves the co-creation of value. This study is interested in determining what actions a supplier can take to facilitate a greater degree of value co-creation collaboration. Because these value co-creation facilitating activities require investment, a supplier will need to segment their customer base and determine the appropriate marketing activities to perform to facilitate the appropriate level of value co-creation relationship for each customer in its portfolio.

### **III.I Value Co-Creation Relationship Level Continuum**

The first construct to be defined is the value co-creation relationship level continuum. Johnston developed a continuum of buyer-seller relationships based on the increasing degree to which value is co-created by the relationship. (Johnston, 2013) Johnston's continuum is the central dependent variable of this study. The five levels of relationships in Johnston's continuum are described in Figure 13.

Figure 13: Johnston's Levels of Buyer-Seller Relationships



On the lower left hand corner of Figure 13, the first point of the continuum is defined as the "Transactional" relationship. This is the traditional view of the arm's length exchange of product for price. The level of value co-creation between the supplier and the customer is virtually zero. The next level of relationship is that of the supplier being a "Credible Source." At this level, the supplier provides information to the customer that helps the customer get additional value-in-use from the product. The supplier providing information and the customer using the information constitutes value co-creation. At the third level, "Problem Solver" the supplier contributes expertise to the solving of problems the customer is having in the processes in which the product is included. Customer and supplier cooperate in the solving of the problem. At the fourth level, "Trusted Advisor," the supplier lends expertise to address general business

problems that extend beyond the specific use of the products and services they provide. And at the fifth and highest level, "Strategic Alliance," Customer and Supplier cooperate to define and exploit new products, processes, and business opportunities.

Table 4 provides examples of each of these points along the continuum.

**Table 4: Levels of Buyer-Seller Relationships (Johnston, 2013)**

Level	Description	Examples
<b>Strategic alliance</b>	Co-creation of value in new products, new processes, and new business ideas.	Coke Fountain and McDonalds meet annually to success global business trends and opportunities.
<b>Trusted advisor</b>	Supplier collaborates with buyer on a wide range of business issues	Deloitte & Touche work with Telefonica on a wide range of business issues beyond the audit relationship.
<b>Problem solver</b>	Product and services values are augmented by solving problems which buyer must collaborate in implementing.	Arizona Chemical helps Goodrich make tires that last longer and have better traction.
<b>Credible source</b>	Product value is augmented by business improvement ideas which buyer must collaborate in receiving.	Sanofi-Adventis sales people spend five-minutes with physicians to update them on medical advance.
<b>Transactional</b>	Supplier creates all value in product and place. Buyer exchanges price for the value. Emphasis is on product quality, price, no errors.	Supplier provides Caterpillar with components at highest quality, lowest price, and fastest delivery

For the Transactional relationship the example is that of a supplier of component parts to Caterpillar. The supplier had tried for several months to upgrade their relationship with Caterpillar through joint planning, problem solving, and social contacts. Finally, the purchasing manager from Caterpillar told them if they would eliminate the relationship selling costs and reduce their price by the same amount, Caterpillar would increase the volume of business they did with the supplier. The supplier complied, and Caterpillar gave them more business. The relationship is no less important, no less "key" but it remains a transactional exchange relationship.

For the Credible Source relationship, the example is Sanofi Aventis, a pharmaceutical company, makers of Ambien, among other blockbuster products. Sales people will visit hospitals and clinics, buy the staff pizza, and spend 5 to 10 minutes with physicians updating them on the latest drugs and how to use them. This information augments the product's value by increasing the value-in-use achieved by the customer. In other words, the supplier and customer collaborate to co-create additional value that the product alone cannot have.

For the Problem Solver relationship, the example is Arizona Chemical, a producer of pine tree based chemicals that are "natural" substitutes for petroleum based chemicals. The scientists at Arizona Chemical collaborated with B. F. Goodrich's research and development department to develop additives that make tires last longer and have improved traction. Clearly, this very valuable and successful work required a high level of collaboration and cooperation on the two groups' parts.

For the Trusted Advisor relationship, the example is Deloitte & Touche's work with Telefonica, the Spanish telephone company. Not only does Deloitte perform the audit, they are asked by Telefonica for a wide range of professional services, including a project to help them introduce a new technology. The professionalism they have exhibited over years earned the trust and respect of their client. And the level of collaboration and cooperation between the two organizations on a wide range of topics was wide and deep.

For the Strategic Alliance relationship, the example is the alliance between McDonald's and The Coca-Cola Company. For decades, the two companies have had a senior management meeting each year to explore business trends and opportunities. Current results of their collaboration include programs to reduce water consumption and reduce carbon footprint as well as more traditional co-marketing and business development programs.

### III.II Construct Definition

We hypothesize that the levels of buyer-seller relationships is a formative construct comprised in turn of five other formative constructs: Trust, Satisfaction, Commitment, Social Relationship, and Value co-creation activities. The first four of these are defined in the literature and have a prominent role in the theories and measurement of relationship marketing, services marketing, and value co-creation. Table 5 presents definitions of four constructs along with references in the literature from which construct items have been borrowed.

Table 5: Definitions of Constructs

<b>Construct</b>	<b>Definition</b>	<b>Type</b>	<b>Item content</b>	<b>Reference</b>
Trust	Each party has confidence in the other keeping its word	Formative	Integrity—keeping one’s word; Reputation— the general opinion of the organization in the industry; Having the other organization’s interests at heart.	Adapted from Morgan & Hunt (1997)
Satisfaction	The evaluation of all previous interactions compared to expectations	Formative	Overall service quality—rating the service exchanges. Sales person interactions—rating the quality of these interactions. Installation process—rating the initial installation of the production line.	Adapted from Cannon & Perreault (1999)
Commitment	Attitude that the parties desire a long term partnership which will continue into the future	Formative	Number of meetings per year—a behavioral measure of commitment. Degree of investment in the relationship. Percent of the category revenue that the buyer awards the seller. Number of departments that maintain buyer-seller relationships.	Adapted from N. Kumar, et. Al, (1995)
Social relationship	The extent to which buyers and sellers engage in non-business activities like dinners, golf, fishing for salmon in Alaska, et al.	Formative	This is a single item construct—an anchored likert scale.	Adapted from Vargo & Lusch (2004)

### **III.III The Value Co-Creation Construct**

According to Vargo & Lusch (2004) "The foundational premises of the emerging paradigm (of value co-creation) are (1) skills and knowledge are the fundamental unit of exchange, (2) indirect exchange masks the fundamental unit of exchange, (3) goods are distribution mechanisms for service provision, (4) knowledge is the fundamental source of competitive advantage, (5) all economies are services economies, (6) the customer is always a coproducer, (7) the enterprise can only make value propositions, and (8) a service-centered view is inherently customer oriented and relational."

And Anderson & Narus (1990) describe the process of "mutual cooperation" as "complementary coordinated actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocation over time." RELPERF takes its measures from Hewett & Bearden (2001).

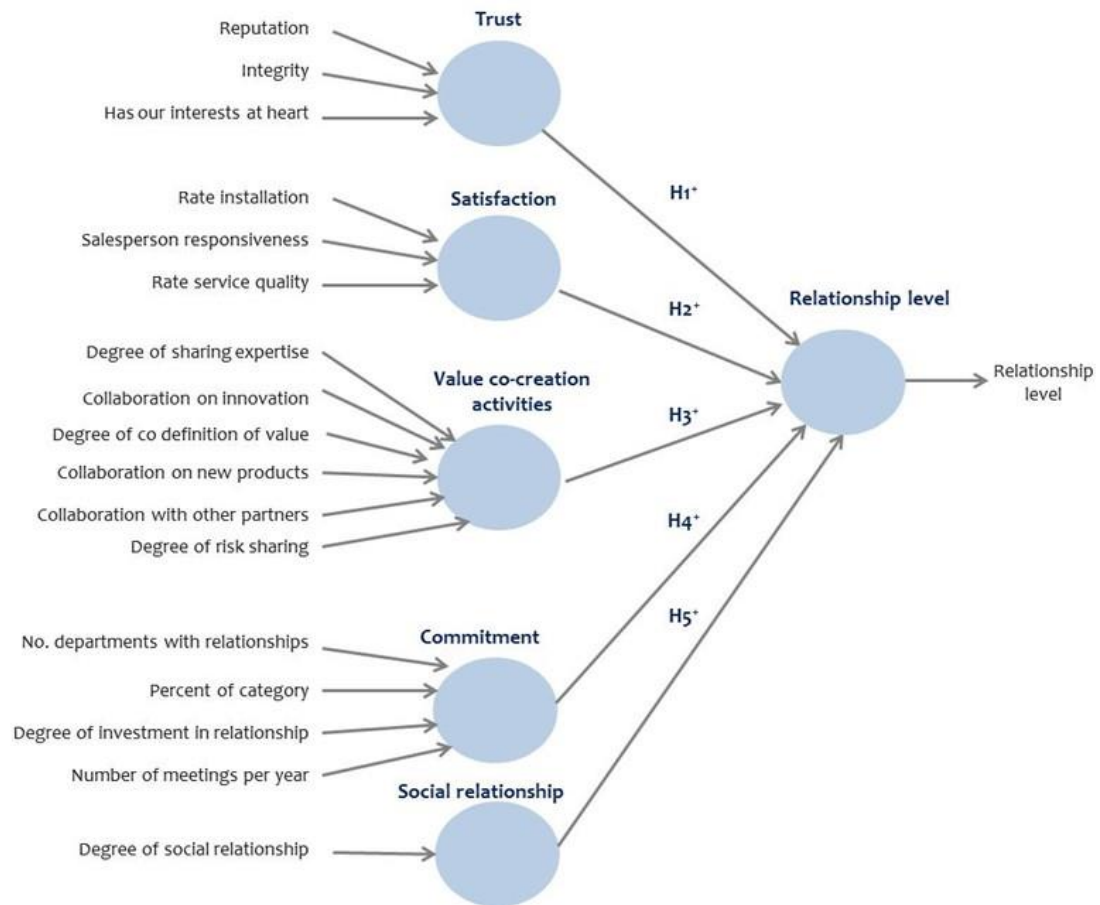
These definitions from the literature are documented in Table 6, below.

Table 6: The Value Co-creation Construct

<b>Measure</b>	<b>Definition</b>	<b>Source or example from practice</b>
Collaboration on innovation	Buyer and seller engage in activities to develop new processes.	Storbacka (2004), EAU collaboration with Coke's bottling processes.
Degree of sharing expertise	Supplier provides seller with insight to solve problems on an ad hoc basis—and visa versa.	Sabert helped Applebee's improve its logistics.
Degree of co-definition of value	Buyer and seller meet to define what problems need to be solved and what solutions will look like	Coke Fountain meets with national accounts, for example, Hardees to stave off competitive bid by Pepsi in exchange for marketing and financial expertise support.
Collaboration on new products	Buyer and seller engage in activities to develop new products	Storbacka (2004), Arizona Chemical
Collaboration with partners	Buyer collaborates with the supplier's other suppliers—like consultants, auditors, even competitors, to solve problems.	Longview Fibre worked with Dole Pineapple, shippers, and logistics consultants to lower costs of shipping empty wood pallets back to Hawaii
Degree of risk sharing	The costs associated with innovations, pilot programs, and experiments are shared by buyer and seller.	Alexander Proudfoot charges a reduced fee for an initial opportunity diagnostic.

Figure 14 presents the theoretical model hypothesized for the customer's view of the relationship level. Below and on subsequent pages each hypothesis is described.

Figure 14: Customer view of the relationship model



H1: The customer's assessment of the level of relationship is positively correlated with the customer's level of trust in the supplier.

Rationale: The relationship between Trust and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.



Measures of Trust: Agreement with statement like “We trust this vendor” using a likert scale have been the typical measures of this construct. Behaviorally anchored forms of these measures validated in field studies were used in this study. (Payan, Svensson, Hair, 2010)

H2: The customer’s assessment of the level of relationship is positively correlated with the customer’s level of satisfaction with the relationship.

Rationale: The relationship between Satisfaction and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.

Measures of Satisfaction: Agreement with statement like “We are satisfied with this supplier’s performance” using a likert scale have been the typical measures of this construct. Behaviorally anchored forms of these measures validated in field studies were used in this study.

Satisfaction with buyer-seller relationships is correlated with the buyer’s assessment of service level, the buyers’ rating of the expertise and responsiveness of the sales person and the buyer’s rating of the installation process. (Payan, Svensson, Hair, 2010)

H3: The customer’s assessment of the level of relationship is positively correlated with the customer’s assessment of the supplier’s execution of marketing activities.

Rationale: The relationship between marketing activities and the Quality of the buyer-seller relationship is established in the literature as are the measures of supplier marketing activities.

(Coviello, Brodie, Danaher, and Johnston 2002) Behaviorally anchored forms of these measures validated in field studies were used in this study.

H4: The customer’s assessment of the level of relationship is positively correlated with the customer’s level of commitment to the relationship.

Rationale: The relationship between Commitment and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.

Measures of Commitment in the literature are in the form of agreement with statements like “We are committed to maintaining an on-going relationship with this supplier” using a likert scale. Behaviorally anchored forms of these measures validated in field studies were used in this study. (Payan, Svensson, Hair, 2010)

H5: The customer’s assessment of the level of relationship is positively correlated with the supplier’s efforts to establish social relationships with people in the customer organization.

Rationale: The relationship between Social Relationships and the Quality of the buyer-seller relationship has been found in some of the quantitative studies of buyer-seller relationships.

Measures of the supplier’s efforts to develop social relationships in the literature are in the form of an agreement with the statement “Please rate the quality of social relationships with this supplier” using a likert scale. In this study this form of measurement was used, as well, because some of the customers (like Campbell’s Soup) restrict the level and kind of social relationships with suppliers. (Payan, Svensson, Hair, 2010)

### **III.IV Supplier Investment in the Relationship Model**

Relationship marketing theory states one of its defining characteristics is that the seller invests time and other resources in creating customer-specific assets (Sheth 2007). And Coviello, Brodie, Danaher, and Johnston. (2002) identified nine types of marketing activities that marketers invest in.

This study’s model began with this theoretical base, and added behavioral measures of marketing activities from three field studies. Fourteen specific marketing activities were compiled as measures of the level of the vendor’s investment in each of its relationships. The list was sent to marketing executives at LMFM who confirmed that they do perform all 14 of these kinds of marketing activities and that this was an exhaustive list of their marketing activity

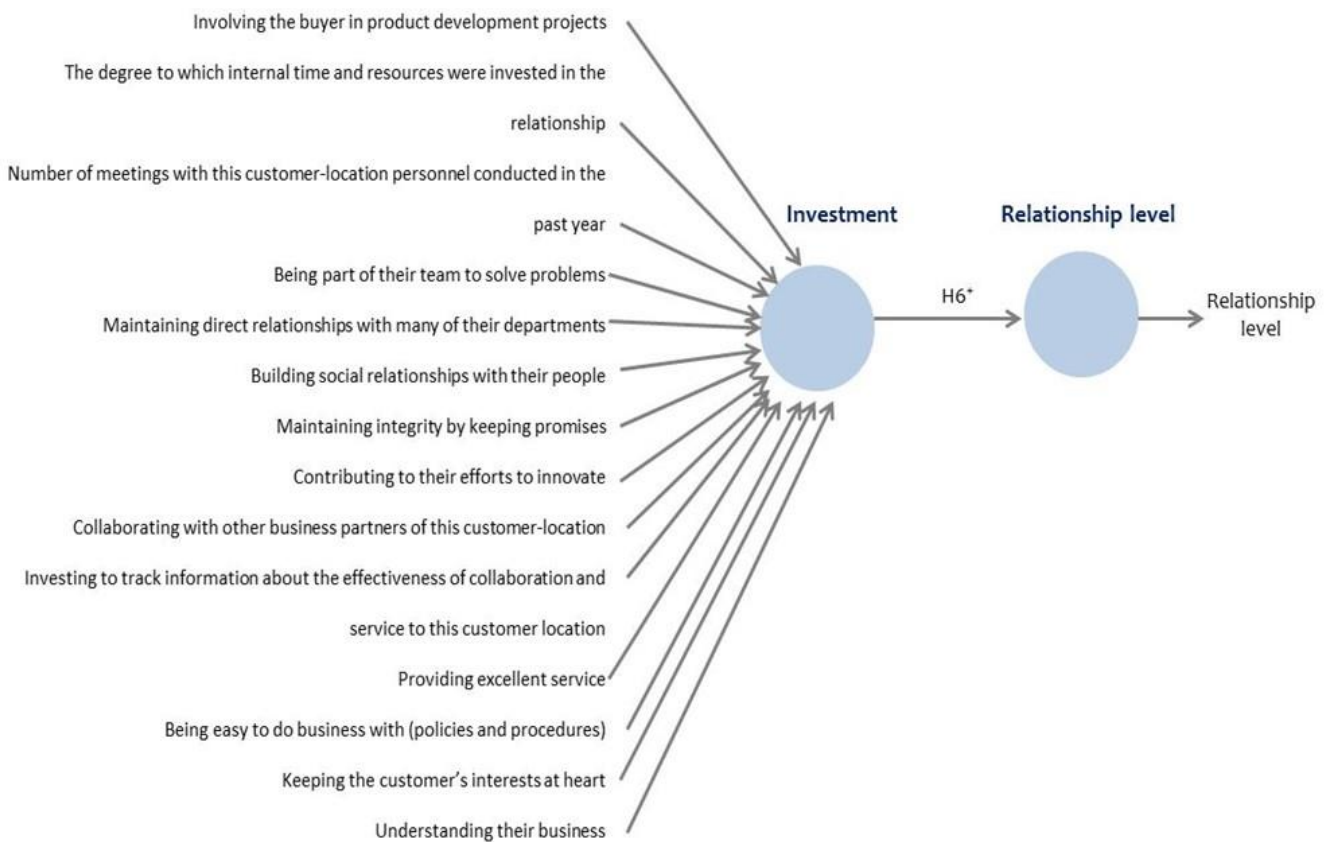
investments. They modified the descriptions of the activities to use language natural for their business and industry.

The fourteen descriptions of marketing activities that resulted were as follows:

- Involving the buyer in product development projects
- The degree to which internal time and resources were invested in the relationship
- Number of meetings with this customer-location personnel conducted in the past year
- Being part of their team to solve problems
- Maintaining direct relationships with many of their departments
- Building social relationships with their people
- Maintaining integrity by keeping promises
- Contributing to their efforts to innovate
- Collaborating with other business partners of this customer-location
- Investing to track information about the effectiveness of collaboration and service to this customer location
- Providing excellent service
- Being easy to do business with (policies and procedures)
- Keeping the customer's interests at heart
- Understanding their business

Figure 15 presents the theoretical model hypothesized for the supplier's investment in the relationship. A description of the sixth hypothesis is presented on the next page.

Figure 15: Supplier investment in the relationship model



H6: The supplier's assessment of the level of relationship is positively correlated with the vendor's level of investment in the relationship.

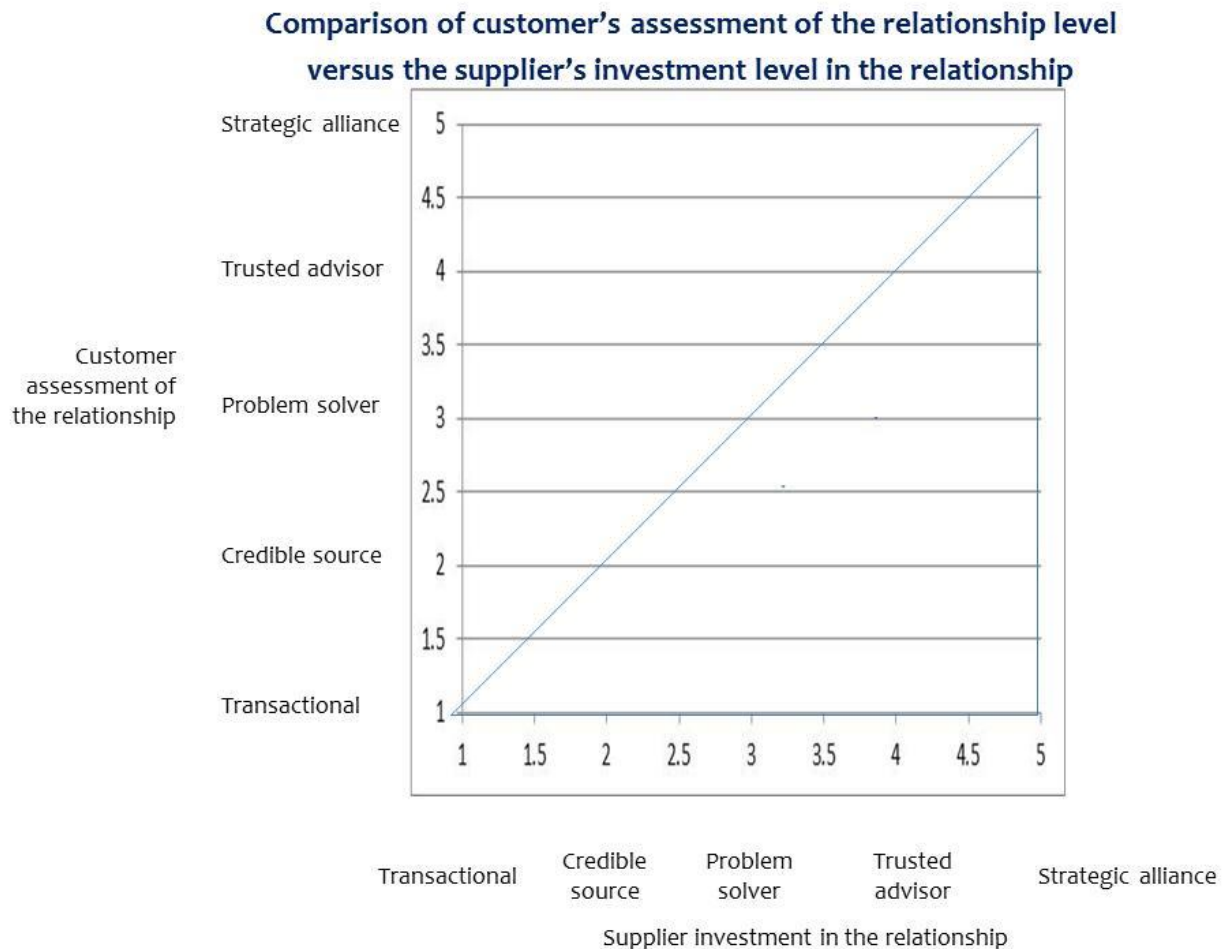
Rationale: The relationship between Investment in marketing activities and the Quality of the buyer-seller relationship is established in the literature. (Sheth 2007, Coviello, Brodie, Danaher, and Johnston 2002) Behaviorally anchored forms of these measures validated in field studies were used in this study.

### III.V Dyadic Data Analysis

Because every relationship is rated by the customer on the one hand and the supplier on the other, each relationship can be represented by a point on a two dimensional grid in

which the x value is the supplier's rating and the y-value is the customer's rating. Figure 16 depicts this two dimensional grid.

Figure 16:



The diagonal line on the grid in Figure 16 represent a state of equilibrium, in which the customer's assessment (the y value) equals the supplier's investment (the x value).

Calibrating the customer's assessment of the relationship level as a function of the constructs will enable us to provide insight and guidance to suppliers about the construct levels appropriate for each relationship level, as well as what aspects of the constructs to invest in in order to raise the level of the relationship, if desired.

Calibrating the supplier's investment in the relationship as a function of investment constructs will enable this study to provide insight and guidance about how best to invest to raise the level of relationship or disinvest to lower it to target levels.

And viewed conjointly, the study will test hypotheses about the dyadic relationship between supplier and customer. Specifically:

H7: The difference between the customer's assessment of the level of the relationship (y-value) and the supplier's assessment of the level of relationship based on its investment in the relationship (x-value) is a function of the differences in the customer's and the supplier's assessment of the marketing activities the supplier engages in and invests in. Rationale: Because the customer's assessment of the level of relationship is hypothesized to be a function of their assessment of supplier behaviors and customer attitudes, and the supplier's assessment of the level of the relationship is hypothesized to be a function of its investment in marketing and service behaviors, it is hypothesized that differences between the customer's assessment of the level of the relationship and the supplier's assessment of the relationship is a function of differences between the customer's and the supplier's view of the supplier's behaviors and the customer's attitude.

Measures: The customer and the supplier were asked to rate the same set of behaviorally anchored dimensions of the relationship. Differences between these ratings were calculated and the differences were used as formative measures in a SmartPLS model where the endogenous variable was the difference between the customer's and the supplier's assessment of the level of the relationship.

Table 7 summarizes the hypotheses of this study.

Table7: Hypothesis summary

Hypothesis	Rationale	Measures
H1: The customer's assessment of the level of relationship is positively correlated with the customer's level of trust in the supplier.	Rationale: The relationship between Trust and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.	Measures of Trust: Agreement with statement like "We trust this vendor" using a likert scale have been the typical measures of this construct. Behaviorally anchored forms of these measures validated in field studies were used in this study. (Payan, Svensson, Hair, 2010)
H2: The customer's assessment of the level of relationship is positively correlated with the customer's level of satisfaction with the relationship.	Rationale: The relationship between Satisfaction and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.	Measures of Satisfaction: Agreement with statement like "We are satisfied with this vendor's performance" using a likert scale have been the typical measures of this construct. Behaviorally anchored forms of these measures validated in field studies were used in this study. Satisfaction with buyer-seller relationships is correlated with the buyer's assessment of service level, the buyers' rating of the expertise and responsiveness of the sales person and the buyer's rating of the installation process. (Payan, Svensson, Hair, 2010)
H3: The customer's assessment of the level of relationship is positively correlated with the customer's assessment of the vendor's execution of marketing activities.	Rationale: The relationship between marketing activities and the Quality of the buyer-seller relationship is established in the literature as are the measures of vendor marketing activities. (Coviello, Brodie, Danaher, and Johnston 2002)	Behaviorally anchored forms of these measures validated in field studies were used in this study.
H4: The customer's assessment of the level of relationship is positively correlated with the customer's level of commitment to the relationship.	Rationale: The relationship between Commitment and the Quality of the buyer-seller relationship is established in the literature as are these measurement categories.	Measures of Commitment in the literature are in the form of agreement with statements like "We are committed to maintaining an on-going relationship with this vendor" using a likert scale. Behaviorally anchored forms of these measures validated in field studies were used in this study. (Payan, Svensson, Hair, 2010)
H5: The customer's assessment of the level of relationship is positively correlated with the supplier's efforts to establish social relationships with people in the customer organization.	Rationale: The relationship between Social Relationships and the Quality of the buyer-seller relationship has been found in some of the quantitative studies of buyer-seller relationships.	Measures of the vendor's efforts to develop social relationships in the literature are in the form of an agreement with the statement "Please rate the quality of social relationships with this vendor" using a likert scale. In this study this form of measurement was used, as well, because some of the customers (like Campbell's Soup) restrict the level and kind of social relationships with vendors. (Payan, Svensson, Hair, 2010)
H6: The supplier's assessment of the level of relationship is positively correlated with the supplier's level of investment in the relationship.	Rationale: The relationship between Investment in marketing activities and the Quality of the buyer-seller relationship is established in the literature. (Sheth 2007, Coviello, Brodie, Danaher, and Johnston 2002)	Behaviorally anchored forms of these measures validated in field studies were used in this study.
H7: The difference between the customer's assessment of the level of the relationship (y-value) and the supplier's assessment of the level of relationship based on its investment in the relationship (x-value) is a function of the differences in the customer's and the supplier's assessment of the marketing activities the supplier engages in and invests in.	Rationale: Because the customer's assessment of the level of relationship is hypothesized to be a function of their assessment of supplier behaviors and customer attitudes, and the supplier's assessment of the level of the relationship is hypothesized to be a function of its investment in marketing and service behaviors, it is hypothesized that differences between the customer's assessment of the level of the relationship and the supplier's assessment of the relationship is a function of differences between the customer's and the supplier's view of the supplier's behaviors and the customer's attitude.	Measures: The customer and the supplier were asked to rate the same set of behaviorally anchored dimensions of the relationship. Differences between these ratings were calculated and the differences were used as formative measures in a SmartPLS model where the endogenous variable was the difference between the customer's and the supplier's assessment of the level of the relationship.

## METHODOLOGY

To validate the models and test the hypotheses, a field study was conducted involving the customer relationships of a supplier that designs, manufactures, installs, and supports the on-going operation and maintenance of vegetable canning lines (e.g., tomato canning lines, refried beans canning lines, et al.)

Several factors made this setting ideal. First, the relationship between buyer and seller was a complex process that unfolded from situation diagnosis to design and manufacture of a complex production system, installation, educating customer operators, and on-going provision of repair parts and service including consultation about production issues. Second there were a range of customer strategies –from cost reduction-based strategies to strategies based on process innovation. Third, the philosophy of continuous improvement pervaded the industry, making managers in both customer and supplier organizations thoughtful about the issues and practices in the models.

The unit of analysis was the dyadic relationship between the supplier and each vegetable canning plant. Major food processing companies like Con Agra, Campbell's Soup, Nestles, et al. each have several plants that focus on different kinds of vegetables and that are located in proximity to the various locations in which the vegetables are grown. (For example, concentrations of plants are found in California, the Midwest, the Northeast, the Southeast.) Decisions about which systems to install and which vendors are used for maintenance products and services, as well as which vendors to consult on problem solving projects are all made at the plant level.

Data were obtained through two web-based surveys. One was designed to be completed by "the person at the plant who is most knowledgeable" about their relationship with



the supplier. The other survey was designed to be completed by the internal employee of the supplier company who is “most knowledgeable about the relationship with the customer.”

#### **IV.I Design of the Surveys**

For the customer survey, the design process started with the RELQUAL and RELPERF surveys. A prototype survey was created based on these two well established surveys. The goal of the prototype survey was to measure this study’s constructs from the customer’s point-of-view. The prototype survey was then compared to the customer-half of dyadic studies that had been completed for four client projects. These four studies included twelve in-depth customer interviews and web-based customer surveys completed by seventy-eight customers—all of which provided feedback on the customer survey instrument being developed for the present study.

For the supplier investment survey, the process started with the Coviello, Brodie, Danaher, and Johnston study of contemporary marketing practices. A prototype survey was created based on this well-established survey. The goal of the prototype survey was to measure this study’s constructs from the supplier’s point-of-view. The prototype survey was compared to the supplier half of the same four dyadic studies that had been used in drafting the customer survey. This process resulted in the first draft of the supplier survey.

The first drafts of the two surveys were improved and customized based on a visit to the supplier’s location in California. The supplier arranged a field visit of a plant that uses the supplier’s products and services to can tomatoes and refried beans. The factory tour was conducted by the supplier’s sales person for that account. During the tour the Customer’s Director of Continuous Improvement stopped the supplier sales person to discuss three projects the supplier and customer were collaborating on to develop innovative solutions to improve

productivity. The researcher was able to ask several of the questions on the first drafts of the surveys and learn how the customer interpreted the questions, modified wording to be more natural for the industry, and thought about and responded to the questions.

Back at the supplier's location the visit and interview-contact were discussed with two of the supplier's sales people, the supplier's head of service and the aftermarket business, and senior marketing and general managers. Every question in the first drafts of the two surveys was discussed and modified to use natural language and to be reasonable in the supplier's and the customers' contexts.

Second drafts of the surveys were written that included all the corrections and improvements from the California visit. The second drafts were sent to seven members of the supplier team who made minor adjustments and corrections. Third drafts of the customer survey were sent to and reviewed with executives at three customer organizations who made no changes.

Fourth drafts of the two surveys were then reviewed by three academic experts and a consultant whose practice was in the area of the study. Each expert reviewer had 25 years of experience or more in the study's field of inquiry. The four experts made suggestions and refinements that focused the measurement items and made the language more precise and rigorous.

The revised (fifth) drafts were sent to the seven members of the supplier teams. Their feedback was that the constructs and measures were all appropriate and complete and they approved the surveys.

#### **IV.II Design of the Sample and Execution of the Surveys**

The supplier has a total of 140 customer-locations that comprise their customer data base. A sample of 100 customer locations was generated by skipping every third customer in the alphabetized list. The name and email address for the person at the customer location that the supplier considered to be most knowledgeable about the relationship was sent to the researcher. The contacts were a cross section of department representatives that included Head of Continuous Improvement, VP of Operations, Superintendent of Maintenance, as well as Purchasing Manager.

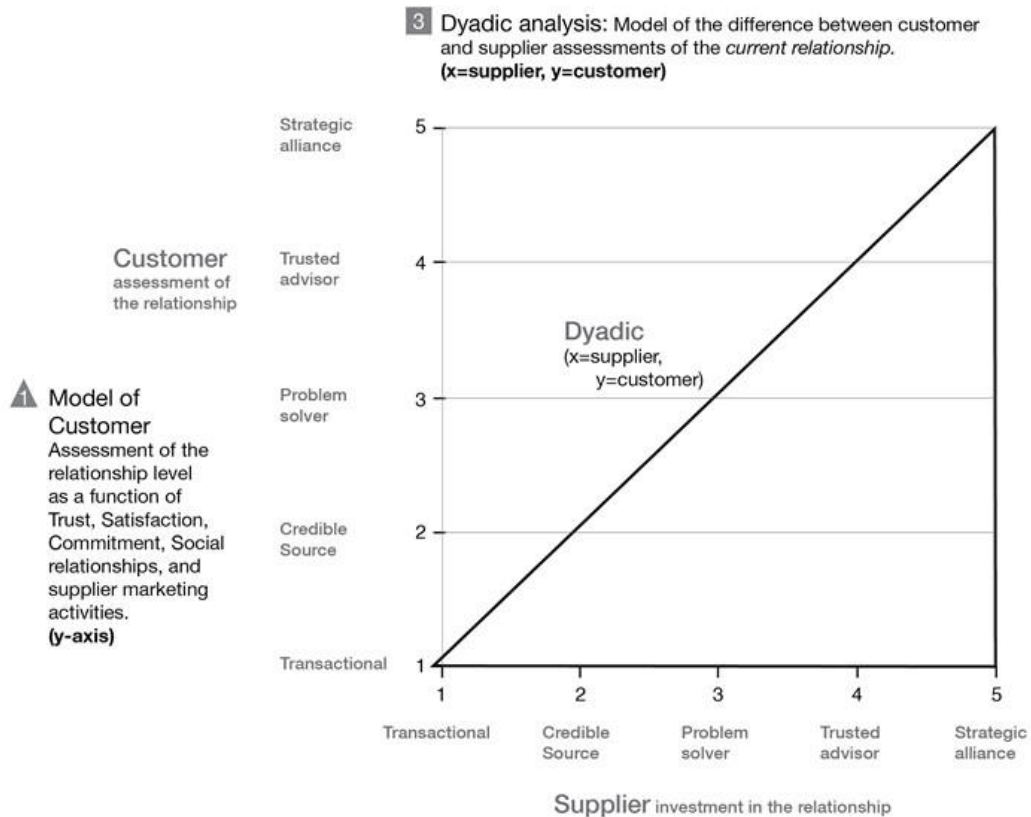
Initial invitations to participate were sent to these customers. Two follow up reminders were subsequently sent to non-responders. After two weeks 52 customers had completed the surveys, and the survey was closed.

As each completed customer survey was received, the supplier was asked to complete the internal survey for the specific customer-location without identifying any other information about the customer survey. One customer had only answered 10% of the questions, and in particular had not answered the battery of questions that measured the study's constructs. This survey was dropped and the supplier was not asked to complete an internal survey for this customer-location. This left 102 total responses which were organized into 51 dyads.

SmartPLS and SPSS were used to create and validate the models and hypotheses. The validation work comprised the five phases of analysis depicted in Figure 17:

Figure 17: The Five Phases of Analysis that Comprise this Study

**Three conceptual models and two additional analyses were performed**



**2** Model of supplier assessment of the relationship level as a function of the supplier's investment in the relationship. (x-axis)

**Additional analyses**

**4** Dyadic analysis of the difference between customer and vendor assessment of the *future* of the relationship.

**5** Market Segmentation Analysis. Best targets for each level of relationship.

The first three phases of analysis depicted in Figure 17 are each models: 1. The model of the customer's assessment of the level of relationship as a function of Trust, Satisfaction, Commitment, and Social Relationships; 2 the model of supplier assessment of the relationship level as a function of the supplier's investment in the relationship, and, 3 the model of differences between the customer's and the suppliers assessments of the level of the relationship as a function of differences between customer and supplier rating of a common set of behaviorally anchored measures. Because these three models included formative measures of the constructs, the reliability of the formative measures (Petter, Straub, and Rai, 2007) was analyzed by using SPSS to calculate the variance inflation factors (VIFs). VIFs under 3.3 indicate the absence of multicollinearity. Construct validity was analyzed by using the SmartPLS principle components analysis. The bootstrapping technique with 500 samples was used to estimate the significance of the weights. Inter-item and item to construct correlations were analyzed using the method given in Diamantopoulos and Winklhofer (2001) which they attribute to Bagozzi and Fornell (1982). This method calls for multiplying the measures by the individual PLS weights, summing them to create a measure of the respective construct and then using SPSS to create a correlation matrix. When measures are more highly correlated with their respective constructs than with other items in the correlation matrix, the constructs are corroborated.

After completing the validation of the three models (customer, supplier, and dyadic) a fourth analysis was performed. It was observed that when comparing assessments of the current relationship with the desired future relationship, instead of converging toward the equilibrium ( $45^{\circ}$ ) line on which buyer and seller assessments of the relationship are equal, the potential relationship dyad diverged from the equilibrium line. The fourth analysis to explain

this divergence led to a fifth analysis, namely the segmenting of the relationships on the basis of the role that innovation plays in the customer's strategy.

#### **IV.III Summary Comments on Methodology**

The unit of analysis of this study was the dyadic relationship between the supplier and each of its customer's vegetable canning plants. Three factors made this setting ideal: First, the relationship between buyer and seller was a complex process that unfolded from situation diagnosis to design and manufacture of a complex production system, installation, educating customer operators, and on-going provision of repair parts and service including consultation about production issues. Second there were a range of customer strategies –from cost reduction-based strategies to strategies based on process innovation. Third, the philosophy of continuous improvement pervaded the industry, making managers in both customer and supplier organizations thoughtful about the issues and practices in the models

Data were obtained through two web-based surveys: The first was a random sample of customer-locations. When customer responses were received, the supplier was asked to complete the supplier survey for that specific customer-locations. As a result, data from 51 dyads were collected.

The analysis was conducted in five sequential stages as depicted by figure 17. The first three phases involved creating structured equation models. Phase four analyzed differences between present and future-desired levels of relationship. And the fifth phase of analysis was a segmentation analysis suggested by the fourth phase of analysis.

The methodology was informed by three factors:

First, similar studies had been performed in three previous settings which included both in depth interviews and web based surveys. One of the project data sets was reviewed in a

seminar on SmartPLS conducted by an expert in PLS and SEM—hence, there was a specific experience base of applying rigorous analysis to many of this study’s measures and constructs.

Second, the academic literature elucidates the project work, providing construct definitions that gave this study a specific academic context.

And third, the supplier and its customers are sophisticated marketing and management practitioners who proved to be excellent partners in executing the design in a disciplined and thoughtful way.

## **RESULTS AND DISCUSSION**

The analysis showed that the level of customer-supplier relationship can be modeled as a function of supplier marketing activities. This finding is very useful to managers who want to improve the level of relationship with a particular customer: It provides guidance about what marketing activities to engage in to accomplish this goal. It is also an academic contribution in that it establishes a new customer-supplier relationship continuum and validates models with behaviorally anchored measures.

Figure 18 summarizes the five phases of analysis that were performed to support these findings. And the balance of this chapter elaborates on each of the five analytical phases.



Figure 18: Analytical Framework for this Study

Three conceptual models and two additional analyses were performed

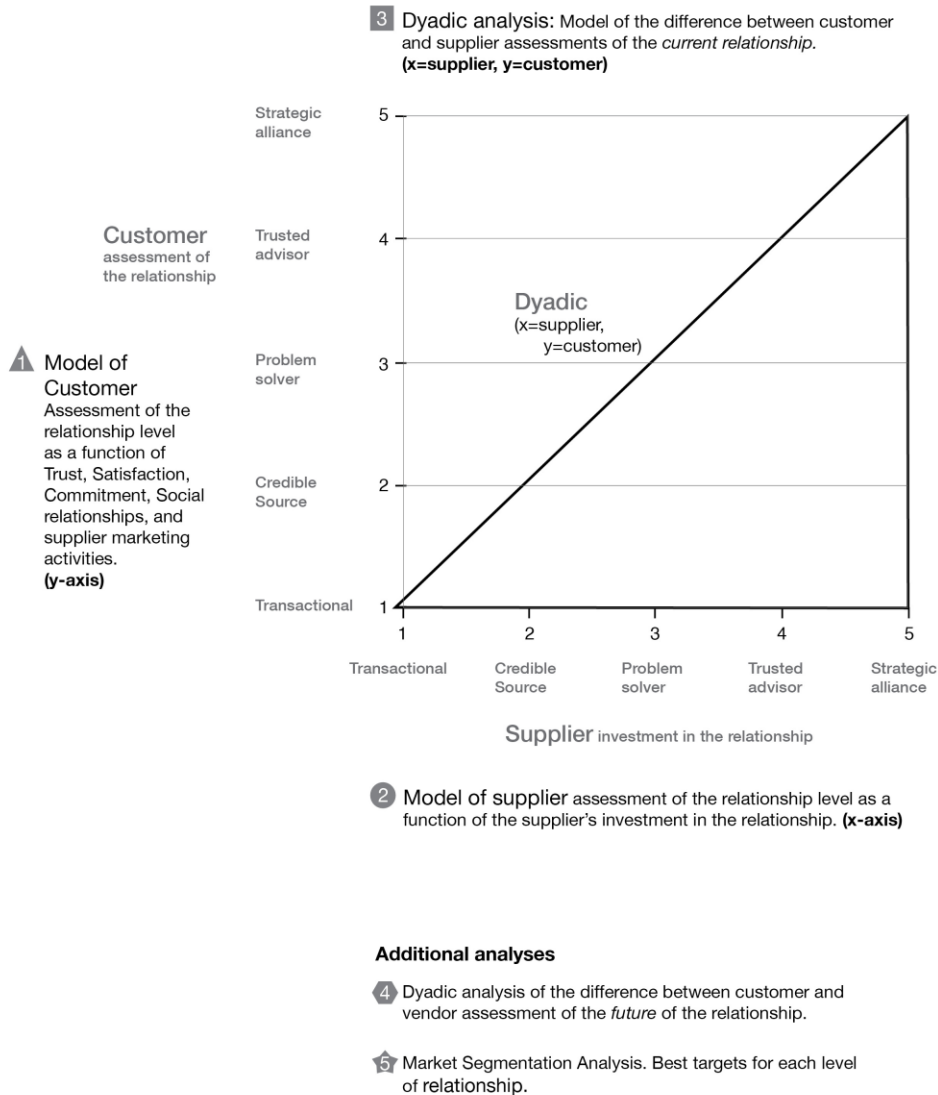


Figure 18 shows the first analysis is a model of the customer's assessment of the relationship level as a function of Trust, Satisfaction, Commitment, Social relationships, and supplier marketing activities. The resulting customer assessment of the relationship level will be plotted on the y-axis of the graph shown in Figure 18.

The second analysis depicted in Figure 18 is the model of the supplier's assessment of the relationship level as a function of the supplier's investment in the relationship. The resulting supplier assessment of the relationship level will be plotted on the x-axis of the graph shown in Figure 18.

The third analysis depicted in Figure 18 is the dyadic analysis. Each relationship of customer and supplier comprises a dyad. And the differences between the customer's and the supplier's assessment of their relationship is modeled as a function of the differences in their ratings and evaluations of the measures of the constructs, Trust, Relationship Quality, Satisfaction, Value co-creation activities, and Social Relationships.

The fourth analysis depicted in Figure 18 is the analysis of differences between customer and supplier assessments of the future of the relationship compared to the current assessments of the relationships.

The fifth analysis depicted in Figure 18 is a market segmentation analysis which yields a profile for the best targets for each level of relationship.

Each of these five analyses is discussed in turn.

### **V.I First Analysis: Model of the Customer's Assessment of the Relationship Level**

The first analysis focused on modeling the customer's assessment of the level of relationship. Smart PLS was used to evaluate the original hypotheses concerning what constructs comprise the customer's assessment of the relationship. Figure 19 presents the results of the analysis.

Overall, the model explains over 37% of the variance in the customer's assessment of the level of the relationship. Figure 19 also shows that two of the constructs, Value co-creation activities and Commitment to the relationship have significant weights, that is, weights whose t-statistics are greater than 1.96. Thus, the customer's assessment of the relationship level is

correlated with Value co-creation activities and with the Commitment level of both parties to the relationship. On the other hand, the constructs, Trust, Satisfaction, and Social Relationship have weights which are not significant (their respective t-statistics are less than 1.96). Thus, the customer's assessment of the relationship level is not correlated with Trust, Satisfaction or Social Relationship.

Because the customer's assessment of the level of the relationship was not significantly related to the level of Trust, to their level of Satisfaction, nor to the level of the Social Relationship with the supplier, H1, H2, and H5 were not validated.

Specifically the following were not validated:

H1: The customer's assessment of the level of relationship is positively correlated with the customer's level of trust in the supplier.

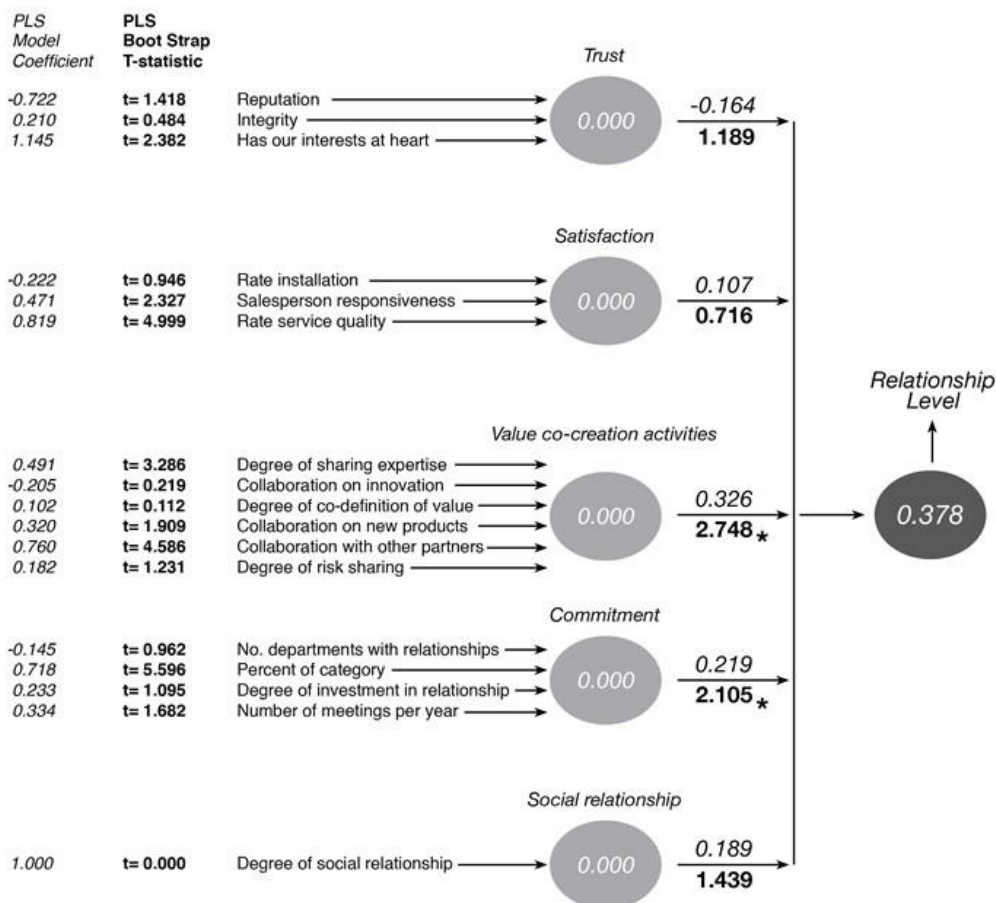
H2: The customer's assessment of the level of relationship is positively correlated with the customer's level of satisfaction with the relationship.

H5: The customer's assessment of the level of relationship is positively correlated with the buyer's efforts to establish social relationships with people in the customer organization.

Figure 19:

Figure 19

**Model of customer assessment of the relationship level as a function of Trust, Satisfaction, Commitment, Social relationships, and Value co-creation**



\* Two of the constructs (value co-creation activities and commitment) have significant weights (t-statistic must be 1.96 or greater)

Three of the constructs (Trust, Satisfaction, and Social Relationships) are not significant (t-value must be 1.96 or greater)

Past studies had shown that Relationship Quality is correlated with Trust, Satisfaction, and Commitment. This study hypothesized that the customer's assessment of the level of the relationship would similarly be correlated with Trust, Satisfaction as well as Commitment. This study had included a separate measure of Relationship Quality and so it was possible to conduct

an investigatory analysis of the relationship between Relationship Quality, Trust, Satisfaction, and Commitment with this study's data. This investigatory analysis showed that these data confirmed the significant relationship between Relationship Quality, Trust, Satisfaction, and Commitment. The implication is that the customer's assessment of the level of the relationship is orthogonal to the customer's assessment of the quality of the relationship. This implies that a customer can be as satisfied with a transactional relationship—if all they want and expect is a transactional exchange—as they are with higher levels of value co-creation in cases where they want and expect those higher levels. An example of this from past studies is the case in which Caterpillar wanted a low cost, high quality components supplier, and when the vendor stopped their efforts to raise the level of the relationship, saving the investments and sharing these savings with Caterpillar in the form of lower prices, they were rewarded with a larger share of the category purchases.

Similarly, the medical doctors who spend 5 minutes with their sanofi-Aventis sales rep, may have a low level of value co-creation, but none the less have a high level of Trust in the relationship.

This study's data confirm that suppliers and customers can have high quality relationships at each of the levels of value co-creation.

These analyses replicate past studies that establish the association of Trust, Commitment, and Satisfaction with the quality of the relationship. And these findings corroborate our constructs and their measures as being consistent with past literature.

Figure 19 also shows that the customer's assessment of the relationship level with the supplier is a function primarily of their perceptions about three marketing activities that the vendor engages in and one measure of the commitment to the relationship.

The three marketing activities are:

The degree to which the supplier shares expertise with the customer

The degree to which the supplier participates in cross-functional and multi-organization (other suppliers and consultants) projects.

The degree to which the supplier involves the customer in new product development projects.

Three other marketing activities, collaboration on innovation, co-definition of value, and the degree of risk sharing occur in the same proportions at all levels of relationship.

The behavioral measure of commitment is the place that the supplier holds in the set of suppliers for the category of product or service supplied. If the relationship is assessed to be transactional, the supplier is typically one of many. As the level of value co-creation increases, the relationship becomes increasingly exclusive. A second measure that come close to being significant (t-statistic = 1.7) is the number of meetings the supplier and customer hold each year. Two other measures that are not significant are the degree to which the supplier is perceived to be investing in the relationship and the number of customer departments that have relationships with the supplier. In the first case—perceived supplier investment, the customer may be perceiving that they are investing an amount that corresponds to the supplier, hence, the supplier is not seen to be providing an incremental investment. In the case of the number of departments with relationships, it may be that even transactional relationships require the coordination of a number of customer and supplier departments.

Table 8 shows the results of the evaluation of the reliability of the formative measures. SPSS was used to calculate the variance inflation factors (VIFs). (Petter, Straub, and Rai, 2007) VIFs under 3.3 show that there is no evidence of multicollinearity. All of the measures for the

constructs that are significantly related to the customer's assessment of the relationship level have VIFs under 3.3. This shows there is no evidence of multicollinearity.

**Table 8: In the first model twelve VIFs are under 3.3. Five are over 3.3**

		Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.003	1.153		-870	.391		
	CReputation5	-.194	.278	-.150	-700	.489	.345	2.894
	Cintegrity5	.414	.383	.295	1.083	.287	.214	4.677
	Courinterests5	-.716	.390	-.493	-1.839	.076	.220	4.542
	Cinstall5	-.276	.256	-.194	-1.079	.289	.491	2.035
	Csalesperson5	-.034	.301	-.024	-.113	.910	.368	2.719
	Cservice5	.449	.235	.340	1.913	.065	.501	1.996
	Cexpertise5	-.316	.386	-.197	-819	.419	.275	3.635
	Jfeedback	.257	.245	.171	1.049	.302	.593	1.686
	Cvalue	-.076	.170	-.066	-.444	.660	.716	1.396
	Cinnov5	.302	.286	.243	1.057	.299	.301	3.324
	Jparts	-.214	.217	-.177	-.987	.331	.494	2.025
	Crisk	.191	.171	.155	1.119	.272	.823	1.216
	Crelates5	.621	.439	.377	1.415	.167	.223	4.478
	Cpercent	-.001	.005	-.030	-.221	.827	.843	1.186
	Jinvest5	.325	.264	.254	1.229	.228	.371	2.694
	Jvisits	.146	.144	.183	1.014	.319	.485	2.060
	Csocial5	.211	.329	.167	.643	.525	.234	4.275

a. Dependent Variable: Ccoprod5

X = VIF is over 3.3

Construct validity was tested by using the SmartPLS principle components analysis. To estimate the significance of the weights the bootstrapping technique with 500 samples was used. The weights are shown in figure 19. Significant weights suggests construct validity.

Inter-item and item to construct correlations were tested using the method given in Diamantopoulos and Winklhofer (2001) which they attribute to Bagozzi and Fornell (1982). This method calls for multiplying the measures by the individual PLS weights, summing them to create a measure of the respective construct and then using SPSS to create a correlation matrix. Table 9 is that matrix for the customer’s assessment of the relationship level model. Note that all items except one relate more strongly to their respective construct than to other measures or constructs.

**Table 9: In the model of the customer’s assessment of the relationship level, seventeen items are more highly correlated with their construct than with other constructs and their items. Four items are correlated more highly with “other constructs” or their items.**

		Constructs																					
		Cropmay	Cinlmay	Countlmay	CTradlmay	Credlmay	Coisponmay	Coisromay	CSatlmay	Cinwomay	Credlmay	Cvalomay	Coisponmay	Coisprodmay	Cpartlmay	Coiscolomay	Coisponmay	Coiscolomay	Coisdomay	Cvalomay	Coisdomay	Coisdomay	Coisdomay
	Cropmay	1																					
	Cinlmay	-0.73**	1																				
	Countlmay	-0.68*	0.73**	1																			
	CTradlmay	0.968	0.72**	0.92**	1																		
	Credlmay	-0.40*	-0.51**	-0.54**	-0.310	1																	
√	Coisponmay	-0.320*	0.551**	0.551**	0.492**	-0.472**	1																
	Cinwomay	-0.371**	0.444**	0.617**	0.509**	-0.442**	0.412**	1															
	CSatlmay	-0.366**	0.506**	0.664**	0.579**	-0.370**	0.683**	0.265**	1														
	Cinwomay	-0.573**	0.570**	0.736**	0.511**	-0.280**	0.374**	0.399**	0.528**	1													
	Credlmay	-0.171	0.070	0.134	0.030	-0.293*	0.074	0.148	0.095	0.133	1												
	Cvalomay	-0.298*	0.226*	0.277*	0.144	-0.291*	0.244*	0.231	0.241*	0.252*	0.225	1											
√	Coisponmay	-0.495**	0.653**	0.584**	0.417**	-0.496**	0.685**	0.513**	0.626**	0.591**	0.694	0.341**	1										
	Coisprodmay	0.109	0.029	0.211	0.336**	-0.089	0.304*	0.137	0.229	0.026	-0.033	-0.017	-0.033	1									
√	Cpartlmay	-0.194	0.043	0.085	-0.048	-0.207	0.145	0.168	0.161	0.177	0.204	0.196*	0.184	-0.124	1								
	Coiscolomay	-0.404*	0.490*	0.661**	0.531**	-0.419*	0.580**	0.485**	0.576**	0.696**	0.332*	0.417**	0.575**	0.580**	0.293*	1							
	Coisdomay	-0.031	-0.014	0.061	0.041	-0.119	0.044	0.155	0.125	0.142	-0.132	-0.123	-0.095	-0.152	-0.084	0.097	1						
	Coiscolomay	-0.382**	0.523**	0.633**	0.547**	-0.594**	0.532**	0.481**	0.512**	0.475**	0.236	0.372**	0.594**	0.234*	0.284*	0.04*	0.067	1					
√	Cinwomay	-0.184	0.080	0.273*	0.184	-0.161	0.353**	0.149	0.245*	0.278*	0.162	0.251*	0.281*	0.209	0.600**	0.491**	0.900	0.101**	1				
	Cvalomay	0.021	0.048	0.137	0.185	-0.137	0.399**	0.100	0.230	0.124	0.008	0.193	0.245*	0.286*	0.417**	0.376**	0.203	0.196	0.595**	1			
	CCommitmay	0.064	0.041	0.142	0.118	-0.190	0.147	0.205	0.197	0.201	0.199	0.185	0.186	0.043	0.266*	0.217	0.827**	0.203	0.191	0.388**	1		
	Cvalomay	-0.407**	0.557**	0.675**	0.567**	-0.508**	0.500**	0.570**	0.591**	0.625**	0.214	0.323*	0.529**	0.237*	0.278*	0.682**	0.074	0.788**	0.387**	0.778**	0.181	1	

\*\* Correlation is significant at the 0.01 level (2-tailed).  
\* Correlation is significant at the 0.05 level (2-tailed).

√ = indicates items that correlate more highly with “other” constructs or their items than with the item’s own construct.

## V.II Interpretation of the Model of the Customer’s Assessment of the Relationship Level

The model in Figure 19 shows that the customer’s assessment of the relationship level with the vendor is a function of their perceptions about Commitment to the relationship and a construct comprising value co-creation activities. Significant at the 95% confidence level are two value co-creation marketing activities:

The degree to which the vendor shares expertise with the customer

The degree to which the customer perceives the vendor cooperates with its other vendors and consultants.



Significant at the 90% confidence level is the degree to which the vendor involves the customer in new product development projects.

The most important behavioral measure of commitment is the percentage of category expenditures the customer has decided to buy from the supplier.

These findings concerning the model of the customer's assessment of the relationship as a function of marketing activities and level of commitment are academic contributions in two ways: First the relationship continuum based on the level of value co-creation is novel. Second, all measures are behaviorally anchored, whereas past measure of customer-vendor relationships have been attitudes measured on likert scales.

Managerially, these findings provide useful levers that suppliers can use to improve their relationships with customers.

### **V.III The Second Analysis: Supplier Assessment of the Relationship Level as a Function of the Supplier's Investment in the Relationship**

The model of the supplier's assessment of the level of relationship as a function of the supplier's investments in marketing activities is presented in Figure 20. It shows fourteen types of investment for the particular relationship (customer-location specific) to be evaluated in the internal supplier survey response. The fourteen types of investment were:

- Involving the buyer in product development projects
- The degree to which internal time and resources were invested in the relationship
- Number of meetings with this customer-location personnel conducted in the past year
- Being part of their team to solve problems
- Maintaining direct relationships with many of their departments
- Building social relationships with their people

- Maintaining integrity by keeping promises
- Contributing to their efforts to innovate
- Collaborating with other business partners of this customer-location
- Investing to track information about the effectiveness of collaboration and service to this customer location
- Providing excellent service
- Being easy to do business with (policies and procedures)
- Keeping the customer's interests at heart
- Understanding their business

Figure 20: Model of the Supplier's Assessment of the Relationship Level as a Function of Investments in Marketing Activities

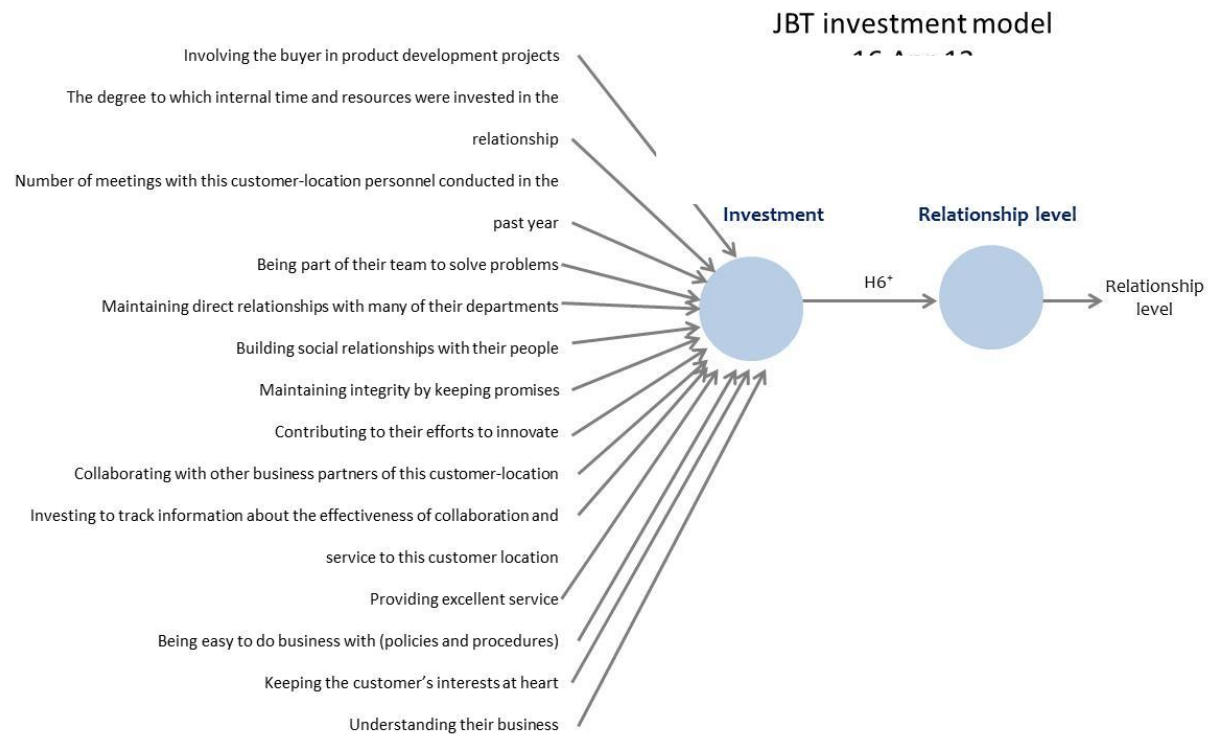


Figure 21 presents the results of the SmartPLS algorithm and bootstrap analyses. It shows that the model overall explains two thirds of the variance in the supplier's assessment of the relationship level. It also shows that only three of the behavioral measures are significantly related to the assessment of relationship level. These are

The degree to which internal time and resources are invested in the relationship

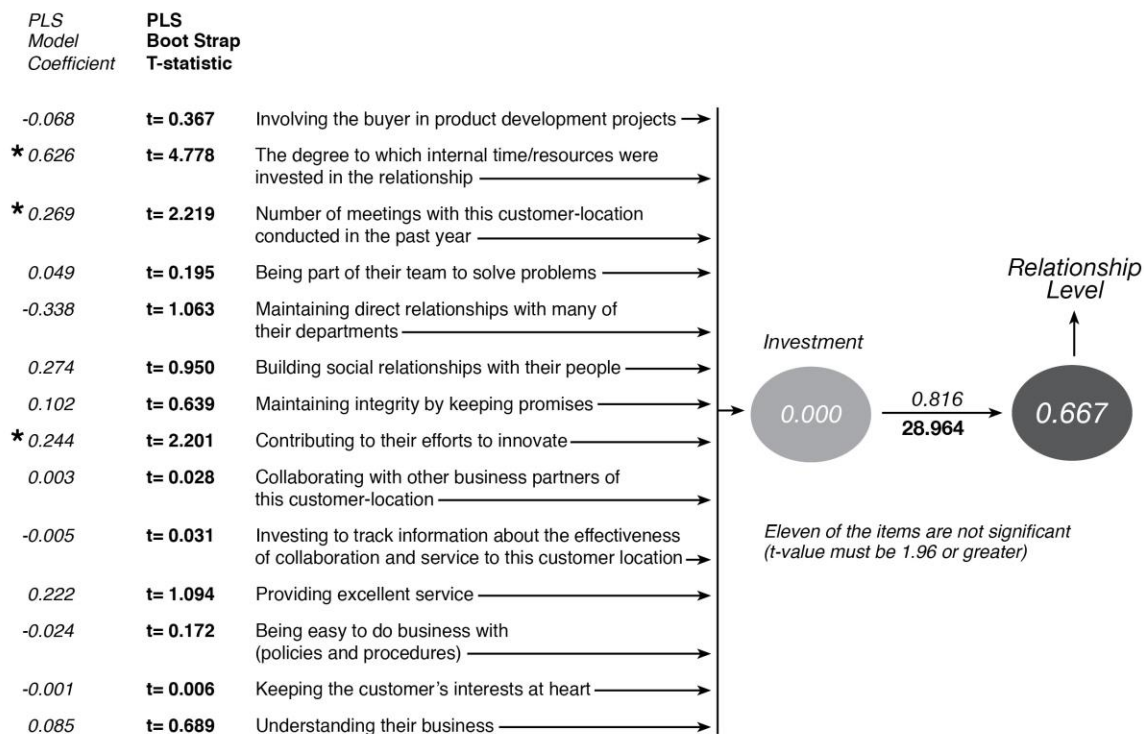
The number of meetings with this customer-location conducted in the past year

Contributing to their efforts to innovate

The fact that only three of the fourteen ways that vendors can invest in a relationship survived the statistical testing process (statistical significance, multi-collinearity and construct validity) is that two of the measures—number of meetings and degree of investment—are carrying the weight of many of the other types of investment.

Figure 21:

### Model of Supplier assessment of the relationship level as a function of the vendor's investment in the relationship



\* Three of the items have significant weights (t-value must be 1.96 or greater)

Therefore, H6 was partially validated. Specifically, this aspect of H6 was validated:

H6: The supplier's assessment of the level of relationship is positively correlated with three types of the supplier's level of investment in the relationship.


Figure 21 presents the assessment of construct validity using the SmartPLS principle components analysis. To estimate the significance of the weights the bootstrapping technique with 500 samples was used. The significant weights are shown on the Figure 21 Significant weights suggests construct validity.

Table 10 presents the evaluation of reliability of the formative measures using the method in Petter, Straub, and Rai (2007) by using SPSS to calculate the variance inflation factors (VIFs). VIFs under 3.3 show that there is no multicollinearity. All three of our measures have VIFs under 3.3. This shows these have no evidence of multicollinearity.

Table 10:

### Supplier investment model reliability analysis (multicollinearity)

VIFs under 3.3 are reliable



		Coefficients <sup>a</sup>				Collinearity Statistics		
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	.823	.408		2.015	.050		
	Jfeedback	.169	.140	.139	1.210	.232	.916	1.092
	Jinvest5	.580	.139	.550	4.029	.000	.644	1.552
	Jvisits	.065	.091	.099	.710	.482	.619	1.617

a. Dependent Variable: Jclose

Table 11 presents the inter-item and item to construct correlations test using the method given in Diamantopoulos and Winklhofer (2001) which they attribute to Bagozzi and Fornell (1982). This method calls for multiplying the measures by the individual PLS weights,

summing them to create a measure of the respective construct and then using SPSS to create a correlation matrix. Table 8 is that matrix for the supplier investment model. Note that all items relate more strongly to their respective construct than to other measures or constructs.

Table 11

### Supplier investment model Construct validity analysis

		Correlations			
		Jinvfeedbck	Jinvinst5	Jinvvisits	Jinvactconstruct
Jinvfeedbck	Pearson Correlation	1	.209	.286 <sup>*</sup>	.397 <sup>**</sup>
	Sig. (1-tailed)		.071	.021	.002
	N	51	51	51	51
Jinvinst5	Pearson Correlation	.209	1	.595 <sup>**</sup>	.964 <sup>**</sup>
	Sig. (1-tailed)	.071		.000	.000
	N	51	51	51	51
Jinvvisits	Pearson Correlation	.286 <sup>*</sup>	.595 <sup>**</sup>	1	.744 <sup>**</sup>
	Sig. (1-tailed)	.021	.000		.000
	N	51	51	51	51
Jinvactconstruct	Pearson Correlation	√ .397 <sup>**</sup>	√ .964 <sup>**</sup>	√ .744 <sup>**</sup>	1
	Sig. (1-tailed)	.002	.000	.000	
	N	51	51	51	51

\*. Correlation is significant at the 0.05 level (1-tailed).  
 \*\*. Correlation is significant at the 0.01 level (1-tailed).

These findings make an academic contribution in two ways: First the relationship continuum as a function of the level of investment the vendor is making is new. Second, these are all behaviorally anchored measures, whereas past measures of vendor marketing activities have been categorical or attitudes measured on likert scales.

Managerially, this finding provides levers that vendors can use to improve their relationships with customers.

#### **V.IV The Third Analysis (the Dyadic Analysis): The Difference between Customer and Vendor Assessments of Relationship Level Is a Function of Differences in Perceptions about Service Levels, Problems Solved, and Number of People with Whom Relationships Are Maintained**

The study's sample consists of dyadic data. Fifty-one dyads were obtained, that is, Fifty-one responses were received from a random sample of the supplier's customer-locations. For every customer response, the supplier completed a supplier's survey that corresponded to the specific customer location. A random sample of 100 customer-locations out of a universe of 140 customer-locations was initially contacted. And 51% responded. Internal supplier responses were obtained for 100% of the customer-locations in the customer survey data base.

Figure 22 plots the mean responses for the customer's assessment of the relationship level (the y-value) paired with the mean internal assessment of the supplier's level of investment in the relationship (the x-value). Also plotted are the mean responses for assessments of where each party would like to see the relationship evolve in two or three years.

Figure 22:

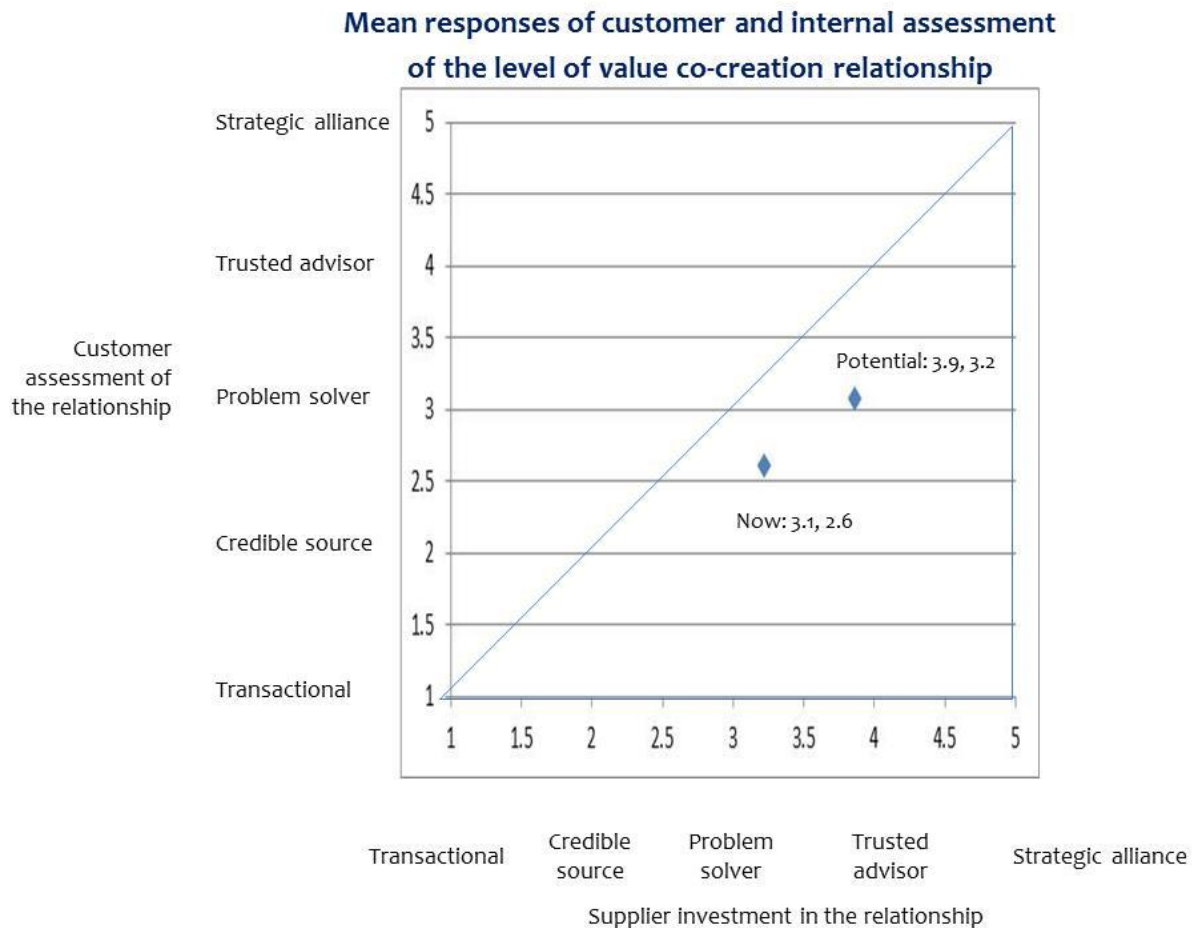


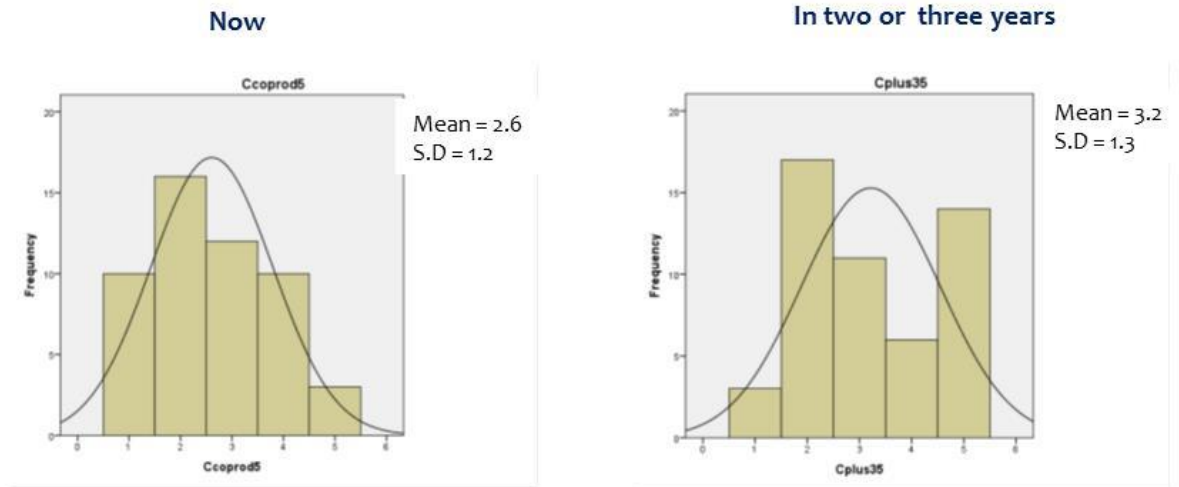
Figure 22 shows the assessments of the current relationship at the point (3.1, 2.6). This is interpreted as the supplier assessing the 51 relationships on average at a level of 3.1, whereas the average of the customer assessments is only 2.6. The difference is statistically significant. The point is below the 45° line, meaning that the supplier is investing in the relationships to a greater degree than the customer is perceiving value.

Figure 23 presents the distribution of these means along with the corresponding standard deviations:

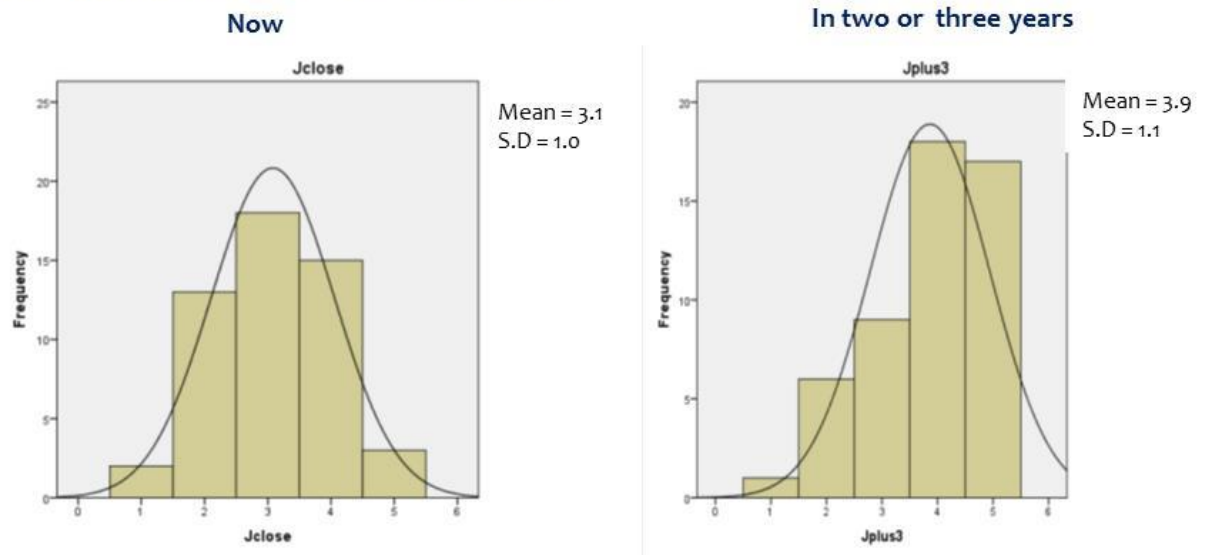


Figure 23:

### Distribution of customer assessments of level of relationship



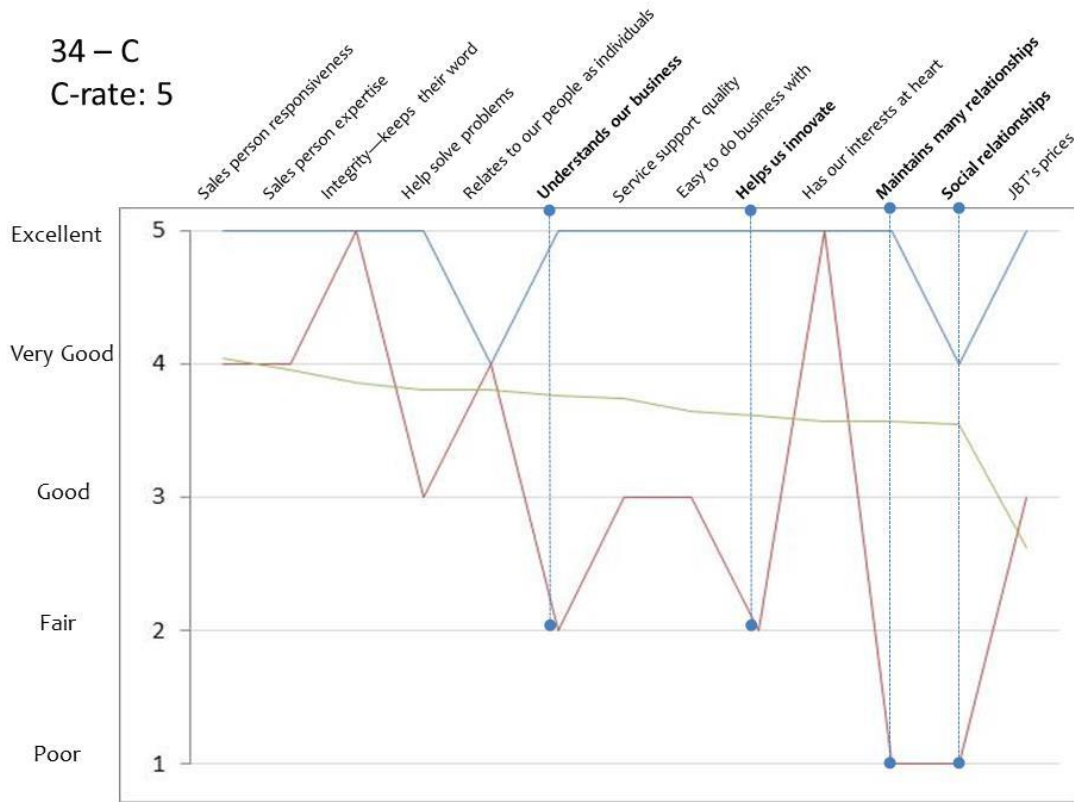
### Distribution of supplier investment in level of relationship



## V.V Model of the Differences in Customer Versus Internal Rating of Level of Relationship

The customer and internal surveys asked identical rating questions on a series of dimensions of the relationship. This permitted creating a comparison of customer and internal answers for each dyad. Figure 24 presents one dyad's responses:

Figure 24: Sample of Dyadic Responses to Rating Questions



What factors led you to rate your relationship with JBT as you did?  
 Quality of equipment and professional technical support  
 In general, what are the most important priorities your company will be addressing in 2013?  
 Capacity expansion

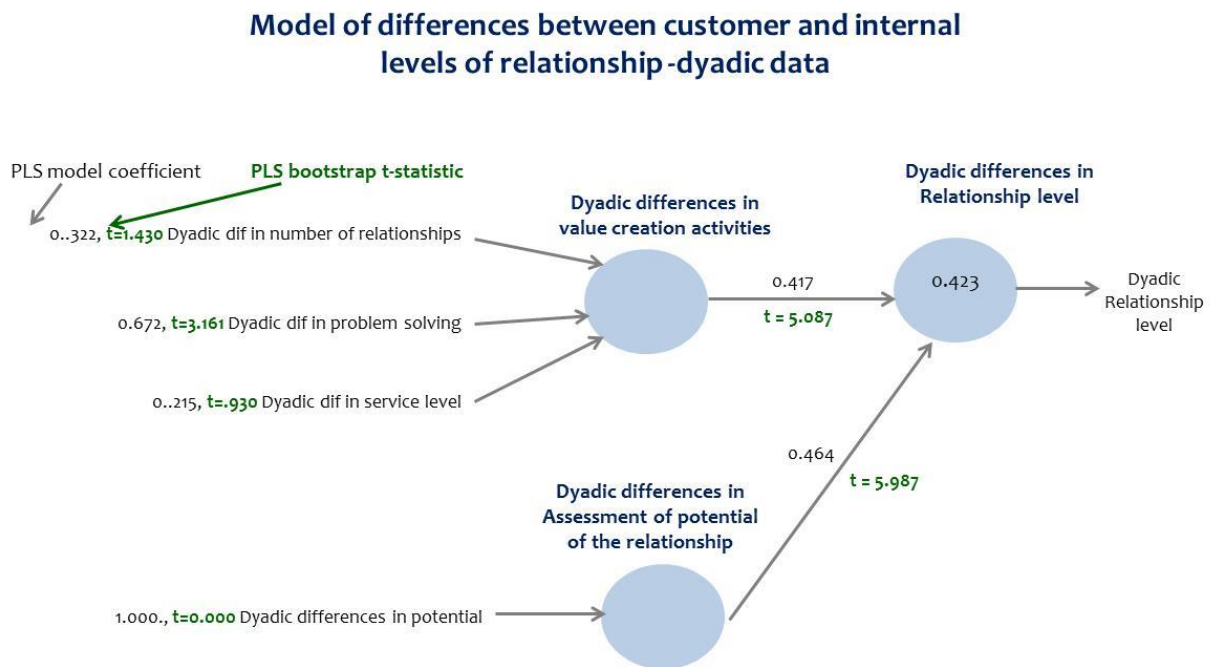
**Red is JBT response**  
**Blue is customer response**  
**Green is Average Customer Response**

Overall, description of relationship C-Rate: 5 - Excellent  
 Description of relationship today: 3 – Problem Solver  
 Description of relationship in three years: 3 – Problem Solver  
 Description of ranking: 2 – Among top 10  
 Percent of category spent: 19%

Overall, description of relationship J-rate : 3 - Good  
 Description of relationship today: 3 – Problem Solver  
 Description of relationship in three years: 1 – Transactional exchanges  
 Description of ranking: 5 – Relationship is in category by itself  
 Description of number of sales visits: 2 – 1 visit in past 12 months  
 Description of number of diagnostic services: 1 – None  
 Description of pricing : 2 – We need to give this customer a small level of discounts

Figure 25 presents the model of the differences between customer and supplier assessment of the present relationship as a function of differences in responses to ratings of dimensions of the relationship:

Figure 25:



Therefore, our H7 was validated. Specifically...

H7: The difference between the customer's assessment of the level of the relationship (y-value) and the supplier's assessment of the level of relationship based on its investment in the relationship (x-value) is a function of the differences in the customer's and the supplier's assessment of the marketing activities the supplier engages in and invests in.

...was validated.

Figure 25 shows that over 42% of the variation in the differences between customer and supplier assessments of the current relationship can be explained by three significant variables:

The difference in the rating of service level by customer and supplier

The difference in the rating of the extent of problem solving assessed by customer and supplier


The difference in the perceived number of departmental relationships maintained by the supplier with the customer.

Reliability of the formative measures in this third model were evaluated according to the procedure in Petter, Straub, and Rai (2007) by using SPSS to calculate the variance inflation factors (VIFs). VIFs under 3.3 show that there is no multicollinearity. All four of our measures have VIFs under 3.3. Table 12 presents this analysis.

Table 12:

### Differences model reliability analysis (multicollinearity)

VIFs under 3.3 are reliable



Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.281	.165		-1.588	.119		
	jdifrelates5	.088	.172	.065	.509	.613	.738	1.355
	jdif solves	.288	.178	.224	1.607	.115	.624	1.602
	jdifsv5	.289	.158	.241	1.832	.073	.703	1.423
	jdifpotential	.457	.105	.503	4.384	.000	.915	1.093

a. Dependent Variable: jdifcreate5

Construct validity was assessed by using the SmartPLS principle components analysis.

To estimate the significance of the weights the bootstrapping technique with 500 samples was

used. The significant weights are shown on the Figure 25. Significant weights support construct validity.

Inter-item and item to construct correlations were tested using the method given in Diamantopoulos and Winklhofer (2001) which they attribute to Bagozzi and Fornell (1982). This method calls for multiplying the measures by the individual PLS weights, summing them to create a measure of the respective construct and then using SPSS to create a correlation matrix. Table 13 presents that matrix for the differences model. Note that all items relate more strongly to their respective construct than to other measures or constructs.

Table 13:

### Differences model Construct validity analysis

		Correlations				
		KDLdifvalu eactscons truct	KDLdifrela teswtd	KDLdifsolv eswtd	KDLdifsvc 5wtd	jdipotent ial
KDLdifvalu eactscons truct	Pearson Correlation	1	.708**	.937**	.660**	.085
	Sig. (2-tailed)		.000	.000	.000	.554
	N	51	51	51	51	51
KDLdifrela teswtd	Pearson Correlation	√ .708**	1	.487**	.320*	.154
	Sig. (2-tailed)	.000		.000	.022	.281
	N	51	51	51	51	51
KDLdifsolv eswtd	Pearson Correlation	√ .937**	.487**	1	.493**	.106
	Sig. (2-tailed)	.000	.000		.000	.457
	N	51	51	51	51	51
KDLdifsvc 5wtd	Pearson Correlation	√ .660**	.320*	.493**	1	-.149
	Sig. (2-tailed)	.000	.022	.000		.298
	N	51	51	51	51	51
jdipotent ial	Pearson Correlation	.085	.154	.106	-.149	√ 1
	Sig. (2-tailed)	.554	.281	.457	.298	
	N	51	51	51	51	51

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

## V.VI Interpretation of Differences Model

The main inference from this model is that the overall difference in the supplier's view of its investment in the relationship  $\bar{X} = 3.1$  is greater than the average customer assessment of the level of the relationship  $\bar{Y} = 2.6$  is due to

1. differences in the perceived service level (perhaps supplier and customer are measuring different aspects of service)
  2. differences in ratings of the extent to which the supplier is solving problems for the customer (perhaps the customer is unaware of all the problems the supplier is solving)
- And, 3. differences in the perceived number of departmental relationships being maintained by the supplier (perhaps the responding customer is unaware of relationships the supplier is maintaining).

The managerial implication is that the supplier needs to close a communication gap, and make the customer aware of the problems they are solving and the relationships they are maintaining. The supplier also needs to understand how the customer is defining service and how the supplier's service measures up on this definition.

In the present case, the internal respondent is likely to have more complete information than the customer respondent. For example, the internal respondent may know specifically of several customer departments with which the supplier maintains relationships. On the other hand, the customer respondent may be aware only of the relationship the supplier has with him or her, and not be aware of relationships with other departments.

Similarly, the customer may be aware only of the problems the supplier has solved for him or her and be unaware of problems solved for other departments. And the same might be true of the customer's awareness of service delivered to other departments.

The managerial implication is that the supplier should conduct what are sometimes called Business Review and Development (BRAD) meetings. At these meetings the supplier discusses the accomplishments of the past period (quarter, half year, or year), review promises made and status in keeping them, as well as future promises and programs. The supplier needs to invite representatives from the full range of departments with which it has maintained relationships and review the full range of problems it has contributed to solving. These meetings will acquaint customer personnel with the full range of investments the supplier is making in the relationship. BRADs offer opportunities for solving a new range of problems and expanding the relationship.

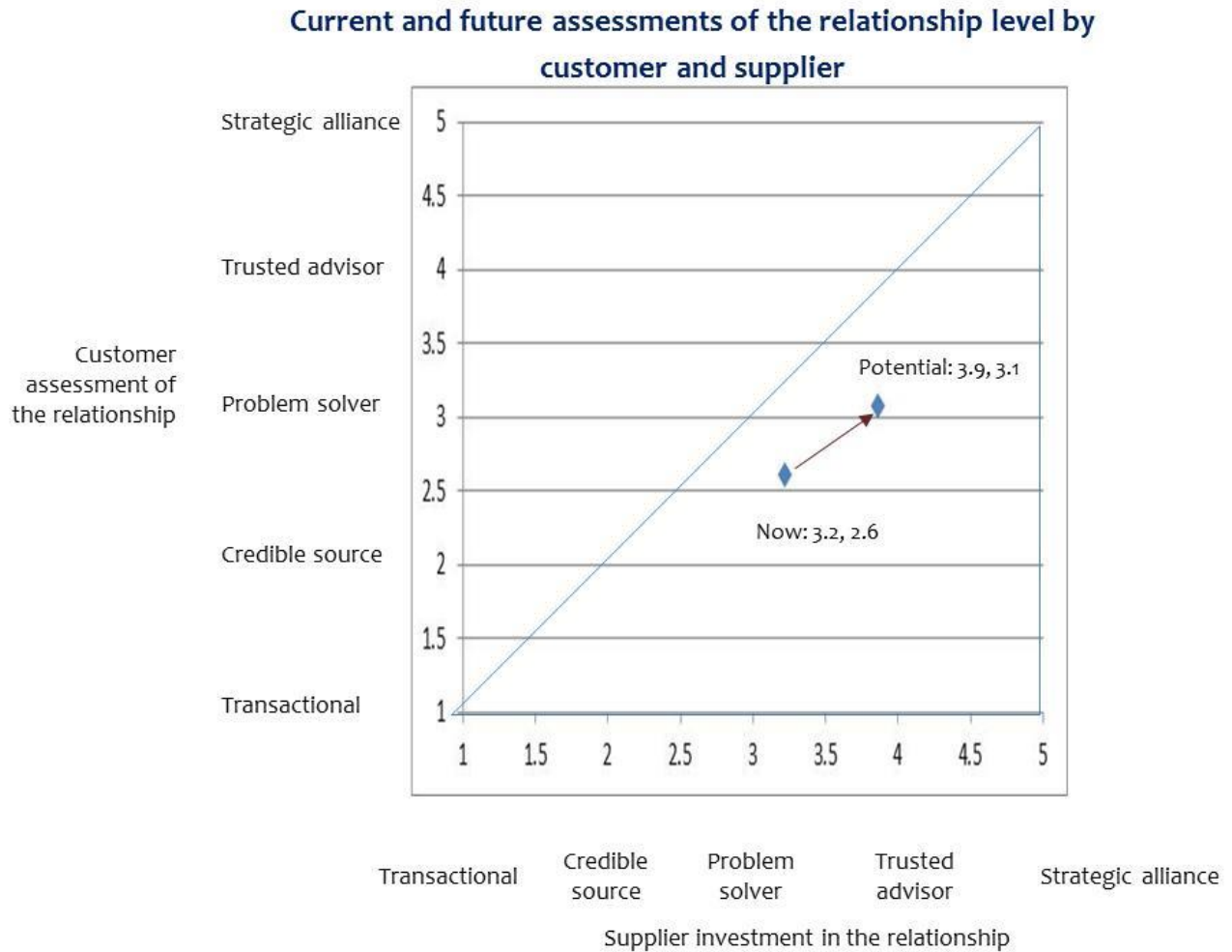
A follow up interview was conducted of the supplier and it was determined that the supplier almost never held formal BRAD style meetings and it was acknowledged that they would be a valuable practice to adopt.

The implication for this study's academic model is that in future work a dimension—level of communications about the relationship—needs to be added.

#### **V.VII Fourth Analysis: Dyadic Analysis: Difference Between Customer and Vendor Assessment of the Future of the Relationship Point to Need for Market Segmentation**

Both customer and supplier respondents were asked to assess where they would like the relationship to evolve to in two or three years. The mean values of the future relationship levels as predicted by customer and supplier are presented on Figure 26.

Figure 26:



The supplier's assessment of where they would like relationships to evolve to is 3.9 on average. This is the x value of the potential point on Figure 26. The customers' assessments of where they would like the relationship to involve are 3.1 on average. This is the y value of the potential point on Figure 26.

Drawing a line that shows the slope of the evolution from current to predicted relationship, emphasizes that the evolution of the relationship, rather than converging to the equilibrium line (the 45° line on which the customer's assessment equals the supplier's assessment) was actually diverging from the equilibrium line.



In a follow up interview it was determined that this divergence was due to the fact that the supplier is not segmenting their customer base. Rather, they are thinking that higher levels of value co-creation are desirable in all cases. Given the level of resources required to move up the value co-creation continuum for a specific relationship, this general increase in relationship level would be impractical. And considering the finding that the quality of the relationship is a function of meeting customer expectations, not necessarily increasing the level of value co-creation, there appears to be an opportunity to segment the customer base, focus resources on increasing the level of value co-creation in those accounts that are receptive and desirous of this level of relationship and at the same time reduce investment in those relationships where a lower level of value co-creation is appropriate and desired by the customer.

It is encouraging that the mean level of relationship desired by the customers is virtually the same as the current level of investment by the supplier. This suggests that the supplier does not need to increase resources invested on average, rather, it needs to reallocate these investments across customers.

#### **V.VIII Fifth Analysis: Market Segmentation**

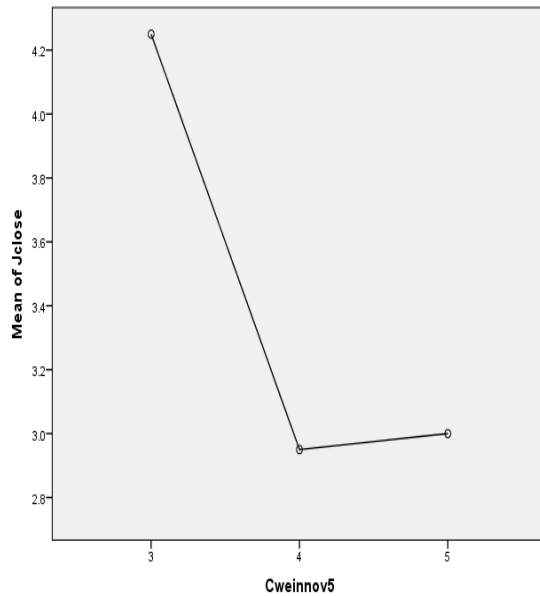
The goal of this analysis is to find the best targets to increase level of relationship with.

The first characteristic of the best customers to select to invest in to achieve a high level of value co-creation is that they have a philosophy of innovation. Figure 27 shows the relationship between the level of the relationship and the customer's description of their organization as being "innovative."

Figure 27:

### Value co-creation relationship level is correlated with an innovation

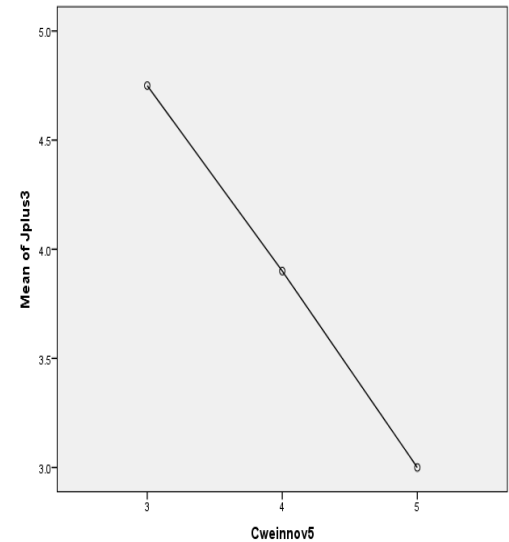
Level of value co-creation—now



←  
Degree of an innovative philosophy

Relationship significant at the 95%

Desired level of value co-creation—in 2 or 3 years



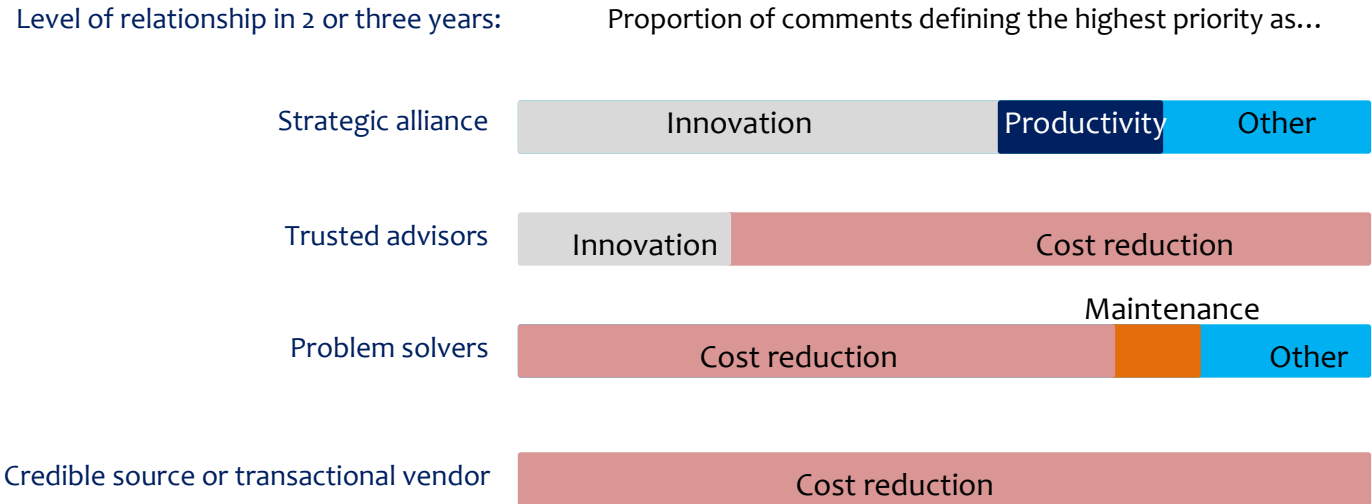
←  
Degree of an innovative philosophy

Relationship significant at the 95%

The x-axis in Figure 27 represents the customer's description of their organization's level of innovativeness. A value of 1 corresponds to "Extremely innovative" a value of 2 corresponds to "Very innovative" down to 5 corresponding to "Not innovative at all." The y-axis corresponds to the value co-creation relationship level, where 1 is Transactional, up to 5 is Strategic Alliance. The downward sloping line is interpreted as, "the more innovative an organization is, the more likely it is that they will aspire to a higher level of value co-creation relationship."

This finding was corroborated by the open ended question, "What is your organization's highest priority in 2013?" Figure 28 presents the responses sorted by the level of value co-creation the respondent aspires to in two or three years

Figure 28: Segmentation Based on Most Important Problem



And table 14 presents samples of the open ended responses:

Table 14:

Sample of Comments on Innovation as Highest Priority

Improving human and food safety, growing businesses, and improving return on capital
new product, processes, and equipment
New product innovation.
Our priorities are to expand the core and value added businesses within our facility. The issues we have the most concern over are the growing, burdensome, non productive regulations that will make it difficult for us to compete in the global market place.
New product innovation & Can rotation issues in rotary cookers
Continuous improvement of current operations through operational enhancements, quality improvements and productivity initiatives.
Productivity and Innovation
New Product Innovations, Alternate Processing

Sample of comments on cost reduction as highest priority

Focus on efficiency.
Fighting inflation by cost reduction opportunities
Cost reduction and infrastructure replacement
Infrastructure upgrades for older and worn out assets. Improving reliability and OEE/EFF.
Capacity and technology to drive prices down
Costs.
cost reduction
Cost reduction, increased production from existing assets, installation and startup of new plants
Drive cost savings projects. / Reduce environmental impact. / Compliance to new food safety regulations. improved efficiency, air quality/carbon foot print/AB32
Cost controls on both the production process and fixed spend sides of our business. / Capital investments will continue for all cost savings ideas. / Big move to CMMS systems and inventory control of MRO.
Productivity, Product Recovery and Quality advancements to position the organization for improved market share and advancement; investment to improve process flow, handling and reduction of labor resources
Continued automation and reduction of labor. Improvements in throughput and energy efficiency

Figure 28 and table 11 illustrate the relationship between the strategy to be innovative and to increase productivity and the desire to have a high level of value co-creation with the supplier. The model of the customer's assessment of the relationship in Figure 19 shows the importance of sharing expertise in establishing a high level of value co-creation. It is consistent

that the customer would want to have greater access to supplier expertise, if their strategy were to innovate or to increase productivity.

From the comments in Table 12 it can be inferred that the supplier can determine what the highest priority of the customer is and then invest in activities to facilitate co-creation of value for those customers that want to focus on innovation and productivity.

For those customers whose highest priority is cost reduction, the supplier can moderate its investment in activities.

In follow up conversations, the supplier was able to think of examples in which customers were very receptive to sharing expertise and co-creating innovative solutions, on the one hand, and other examples of customers discounted the supplier's work in sharing expertise, solving problems, and creating innovative solutions. The supplier readily saw how they could reduce the cost of serving these transactional customers without reducing the level of customer satisfaction.

The supplier also saw how they could enhance the strategic alliances and trusted advisor relationships by conducting BRADs and raising awareness of the contributions that strategic alliance customers value.

### **V.IX Segmentation by Differences in Assessment**

A second way to segment the customer base is to classify each relationship based on the difference between the customer's assessment of the level of relationship and the supplier's assessment of the relationship. Three segments emerge from this analysis:

Group 1: Supplier's assessment is greater than the customer's—overinvestment

Group 2: Supplier's assessment is less than the customer's assessment—customer at risk

Group 3: Supplier's assessment is equal to the customer's assessment—in balance

Figure 29 shows the distribution of relationships into these three groups:

Figure 29: Distribution of Dyads

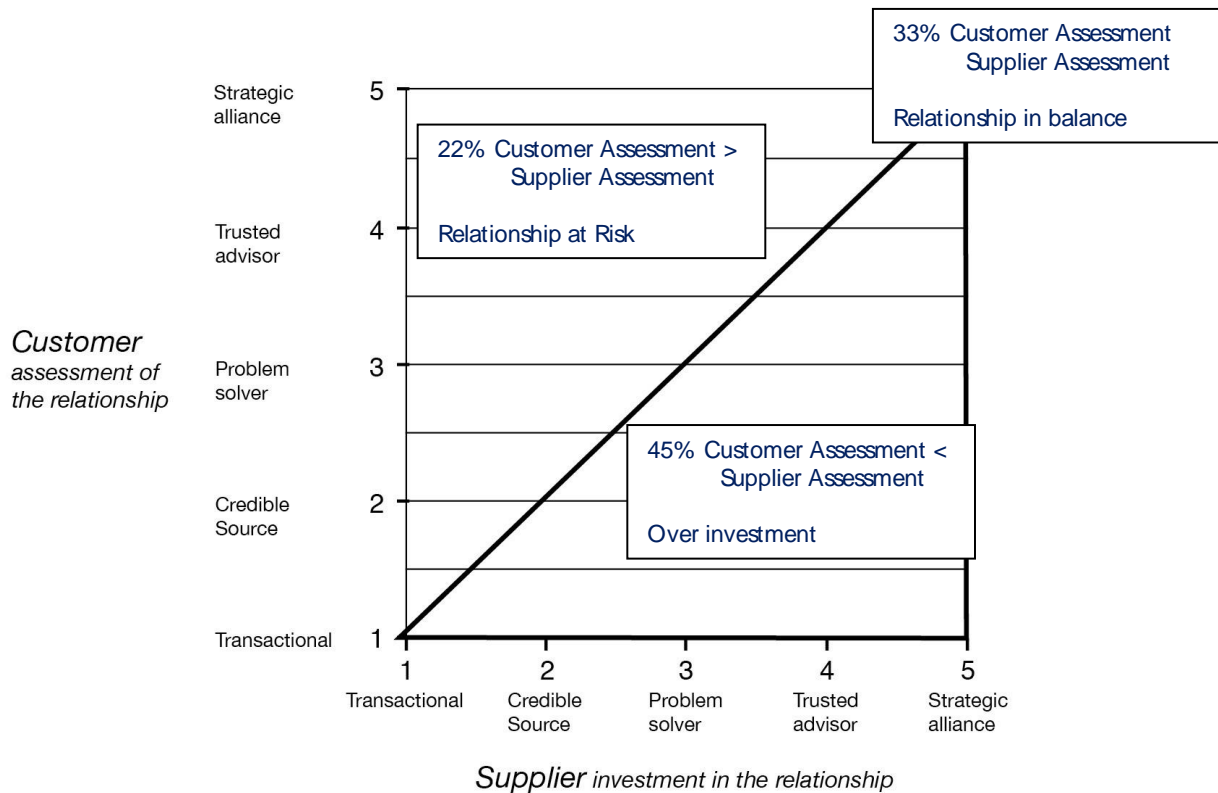


Figure 29 shows that for 45% of the dyads the supplier's assessment of the level of the relationship is greater than the customer's assessment of the level of the relationship. These are cases in which the supplier is overinvesting in the relationship. In discussions with the supplier's executive team two managerial options were uncovered. First, the supplier felt that the customer might be unaware of the investments the supplier was making. If the supplier convened Business Review and Development (BRAD) meetings, they would have the opportunity to communicate the value of the investments, raise the customer's assessment of the relationship level and translate that new awareness into additional business from earning a larger share of existing business and cross selling new business. Looking at the customer's

answer to the question of where they would like the relationship level to evolve to in 2 or three years, reveals that 6 percentage points of the 45% would like the relationship level to be higher than they perceive it to be now. These are cases where communication of the investment already being made would bring the relationship into balance. The second managerial option would be to streamline the investments being made in these relationships and reallocate resources to other relationships. Looking at the level of relationships that these customers would like the relationship to evolve to in two or three years, shows that in 39% of the cases, supplier can streamline the investment and still meet customer expectations. In these cases the BRAD still plays an important role, namely in establishing communication with the customer to get both parties on the same page with respect to the service levels desired and the investments of expertise that will be valuable to the customer.

Figure 29 also shows that there are 22% of the customers who rate the level of relationship higher than the supplier feels it is investing resources in the relationship. In discussions with the supplier's executive team, two managerial options were developed. The first managerial option assumed that the supplier's current level of investment actually did generate a higher level of relationship than the supplier realized. The managerial implication was that the supplier needed to facilitate a dialogue with the customer to determine how the customer was using the supplier's products and services to create the value the supplier was unaware of. Once this value was defined, the supplier would be careful to maintain this source of value and might find opportunities to transfer this learning to other accounts by communicating this new source of value so other customers could take advantage of it. The second managerial option would be to increase investment in these accounts to match the current and desired levels of relationship. If the supplier was actually underinvesting in these

relationships, these customers are vulnerable to other suppliers who are willing to invest the required resources.

The third number on Figure 29 are those customers whose assessment of the level of relationship is exactly equal to the supplier's investment in the relationship. This group of customer relationships in balance is 22%.

Table 15 presents the distribution of dyadic differences between customer assessment of the level of the relationship and the supplier investment in the relationship. It shows that the most common overinvestment by the supplier are cases where the customer wants a transactional relationship or a credible source relationship and the supplier is treating the customer as if they are in a problem solving, trusted advisor, or strategic alliance relationship. When shown this finding, the supplier's executive team was immediately able to hypothesize about which customers fell into this category. The inferences they drew were: 1 They need to communicate with these clients to determine the actual situation; 2 They might need to develop relationships with higher levels in these organizations to find executives who would value higher levels of relationship; and, 3 If they learned that these organizations would really only interested in transactional relationships, they would need to work to streamline their service and expertise delivery and reallocate resources to other customers who are interested in higher levels of relationship.



Table 15:

Distribution of dyads					
<b>Customer Assessment</b>	Strategic Alliance or Trusted Advisor	1	1	3	9
	Problem Solver	2	3	4	3
	Credible Source		6	4	5
	Transactional		3	7	
		Transaction al	Credible Source	Problem Solver	Strategic Alliance or Trusted Advisor
			<b>Supplier Assessment</b>		

## V.X Summary of Results

Table 16 presents a summary of the results of the study's analysis. It shows that three of the study's seven hypotheses were validated, one was partially validated and three failed to be validated.

Table 16:

## Four of the Seven Hypotheses Were Validated in Full or Partially:

<b>Hypothesis</b>	<b>Result</b>	<b>Implication</b>
H1: The customer's assessment of the level of relationship is positively correlated with the customer's level of trust in the supplier.	Not validated	Trust and Satisfaction are related to the quality of the relationship, but not to the level of value co-creation in the relationship. This led us to investigate and learn that quality of the relationship is orthogonal to the level of value co-creation. In other words, customers can assess the quality of relationship just as high for a transactional relationship as for a strategic alliance, if that is the level of relationship they need and want.
H2: The customer's assessment of the level of relationship is positively correlated with the customer's level of satisfaction with the relationship.	Not validated	
H3: The customer's assessment of the level of relationship is positively correlated with the customer's assessment of the vendor's execution of marketing activities.	Validated	Customer assessment of the relationship level is a function of Commitment and five vendor marketing activities. Vendors can facilitate co-creation of value by sharing expertise, collaborating on customer process innovations, helping the customer solve problems, involving the customer in new product development, and collaborating with other vendors and consultants.
H4: The customer's assessment of the level of relationship is positively correlated with the customer's level of commitment to the relationship.	Validated	
H5: The customer's assessment of the level of relationship is positively correlated with the buyer's efforts to establish social relationships with people in the customer organization.	Not validated	It's all about innovating solutions for processes and products. Leave guanxi for the Chinese.
H6: The vendor's assessment of the level of relationship is positively correlated with the vendor's level of investment in the relationship.	Partially Validated	Focus on three critical kinds of investment: Investment in involving the customer in new product development, in more marketing activities, and in holding more business review and development meetings.
H7: The difference between the customer's assessment of the level of the relationship (y-value) and the supplier's assessment of the level of relationship based on its investment in the relationship (x-value) is a function of the differences in the customer's and the supplier's assessment of the marketing activities the supplier engages in and invests in.	Validated	Differences in how buyer and supplier assess the relationship are due to the customer not being aware of all that the supplier is doing in terms of maintaining many relationships inside the company, solving problems, and providing service.  Differences in the projected relationship are due to the supplier not differentiating between those customers who want a higher level of value co-creations and those that do not.

The fifth analysis discovered that the best targets for higher levels of value co-creation are customers who place the highest priority on innovation and increases in productivity.

Customers who are interested in cost control, spending within budget and meeting planned maintenance activities are better candidates for lower levels of value co-creation.

### **V.XI Managerial Implications**

The supplier took three main implications from the results of this study:

1. Segment and target: The supplier is going to meet with each of its customers to determine their relationship expectations. When meeting with them they will be looking for those customers who want higher levels of relationship in order to innovate or increase productivity. These will be the focus of efforts to develop trusted advisor or strategic alliance relationships, to co-create value and to capture some of that value through higher percentages of category sales (share of wallet) and new products and process expertise.
2. Reallocation of resources: The supplier was surprised and encouraged that they were already investing sufficient resources in total. The opportunity would be to streamline relationships in which they are overinvesting and reallocate resources to those relationships that would like higher levels of relationship.
3. Business Review and Development (BRAD) meetings would be an important marketing tool for higher levels of relationship on a quarterly or semi-annual basis and for lower levels of relationship on an annual basis.

## **CONCLUSION**

This chapter outlines the contributions to theory and to managerial practice and discusses limitations and implications for future research.

### **VI.I The Academic Contributions**

This study makes two main contributions: First it contributes a new continuum of buyer-seller relationships to the academic literature—one based on levels of value co-creation. And second it validates behaviorally anchored measures of new and well established constructs. And it makes these contributions in five ways:

First, continua in buyer-seller relationships are not new. The literature review reported on eight continua. This study's continuum based on the level of value co-creation is consistent with past continua but provides a new perspective and integrates the value co-creation literature with the transaction-to-relationship literature.

Second, this study confirms past studies that show that the quality of relationships is a function of Trust, Satisfaction, and Commitment and it makes this confirmation with new, behaviorally anchored measures. It shows that the new value co-creation based continuum of buyer-seller relationships is orthogonal to the established models of relationship quality.

Third, this study contributes a model of the customer's assessment of the level of value co-creation as a function of the commitment to the relationship and levels of activities by the supplier that facilitate value co-creation. These measures are a new contribution in that they are behaviorally anchored.

Fourth, this study validates a model of the supplier's assessment of the level of value co-creation in the relationship as a function of investment in the relationship.

And, fifth, this study shows that differences in buyer and supplier assessments of the level of value co-creation can be explained by differences in their assessment of a series of value co-creation activities.

## **VI.II Limitations of this Study and the Resultant Implications for Future Research**

One of the advantages of this study was that the setting was that of a single company. Many moderating and mediating factors that would complicate a multi-company study are held constant by the single company setting.

This advantage becomes a limitation when considering the generalizability of the findings. Future research needs to be performed in other settings as well as in multi-company samples in order to draw inferences about generalizability of the models and findings.

In particular, it is likely that the differences between supplier and buyer assessments will be explained by other differences in the assessments of model components in different settings. Multi-company studies will need to be performed that include moderating and mediating variables to determine the circumstances under which various patterns of results are found. Based on this study, it can be hypothesized that the following attributes may be moderating factors:

Degree to which innovation is an important aspect of strategy.

The level of management and marketing sophistication of the respondents.

Homogeneity of industry culture.

Degree of international, multi-business-culture customer base. (The current study was exclusively North American.

One of the field studies on which this study's measurements were based, had a global customer base, and it obtained findings that were similar to those of the present study. (One

of the main differences was the importance of social and personal relationships in Asia.) However, the earlier field study was performed with much less rigor.

### **VI.III Managerial Implications**

One of the managerial implications of this study is that suppliers can enhance the level of value co-creation in their relationship with their customers by engaging in facilitating behaviors—only when the customer desires a relationship characterized by value co-creation.

Since these behaviors are costly and require investments, it is necessary that the supplier segment its customer base and decide which customers to invest in at which levels. In the present case, the supplier appears to be investing an appropriate amount of resources in total and can bring its portfolio of relationships closer to an equilibrium state by reallocating resources. It can be hypothesized that in other cases more or fewer resources might be needed to bring the portfolio into an equilibrium state.

Differences in supplier and buyer assessments of resources can be explained by differences in perceptions of the behaviorally anchored measures. This calls for the parties to facilitate communication about these behaviors in order to bring the relationship into a state of equilibrium. This study takes the point-of-view of the supplier and shows there are actions the supplier can take to facilitate this information sharing. There is another line of research that shows that the buyer may want to facilitate this communication as well in order to improve its management of its suppliers and to facilitate its co-creation of value with suppliers.

Another important managerial implication is the need for suppliers to manage a portfolio of customer relationships. Some relationships will and ought to remain transactional and require attention to quality products and services narrowly defined. Others will require a cooperative model of interaction. In all cases, the resources invested will need to be matched with the needs and wants of each specific customer.

#### VI.IV Implications for Further Research

Future research needs to add a measure of the level of communication about the relationship. There is also a need to replicate these models for different segments of customers.

It must be reported that two measures that were hypothesized to predict level of relationship probably failed because of problems in the way the questions were posed.

One of these was a measure of the level of risk sharing in the relationship. After examining the responses, it was felt that the ultimate situation in a strategic alliance was the sharing of costs and risks. Table 17 shows how the question was posed in the left hand column and how it should be posed in future research.

Table 17: Proposed Revision of Question Wording

<b>Current wording</b>	<b>Proposed future wording</b>
When the supplier proposes an innovative solution how much of the risk does your company bear? Please choose the category that most closely describes how much risk your company typically bears:	When an innovation is proposed for your business, how are the costs and risks shared between your company and the supplier?
None—the supplier must bear all risk	There is no sharing of costs and risks. The proposing party bears all costs and risks.
We invest time and information—but the supplier must provide all the dollar investment	
We share costs and risks equally with the supplier	
We will invest most of the resources	
We don't really account for the investments—we trust resources and benefits will balance over time	We share costs and risks equally with the supplier.

A similar problem was found with the measure of how value was defined in the relationship.

#### VI.V Summary of the Contributions to Theory and to Managerial Practice, Limitations, and Implications for Future Research

The relationship continuum brings clarity to the nature of the customer portfolio that needs to be managed and a basis for resource allocation. The modeling of differences illuminates the relationship communication challenge and calls for the use of the business

review and development meeting best practice. The dyadic analysis brings a mirror of feedback for both customer and supplier to optimize their relationship management activities.

It is a fortunate moment in time, that the theories, concepts, and measures of value co-creation are just now being added to the evolution of marketing. How timely it is to contribute this value co-creation-based relationship continuum and this study's behaviorally anchored measures to this line of research.

These contributions are an illustration of the value of engaged scholarship—a process that draws on real world phenomena to generate and calibrate theory.



## REFERENCES

## APPENDICES

### APPENDIX A: QUESTIONNAIRES

#### Customer Survey

Customer Survey: [The Supplier] values our relationship with you. In order to enhance that relationship we would like your feedback and ideas about how to improve our collaboration with your organization. The following survey should take you less than 10 minutes to complete. There are opportunities both at the beginning and at the end of the survey for you to share your ideas in your own words. Thank you in advance for taking the time to help us continue to improve our service to you. If you have comments or feedback about the survey please contact Karl Hellman at [khellman@resultrek.com](mailto:khellman@resultrek.com), or 678 793 7343.

1. Overall how would you rate your relationship with [THE SUPPLIER]? Would you say your relationship with [THE SUPPLIER] is...

- Excellent (1)
- Very Good (2)
- Good (3)
- Fair (4)
- Poor (5)

2. What factors led you to rate your relationship with [THE SUPPLIER] as you did?

3. Next, using the same scale, please rate the following aspects of your relationship with [THE SUPPLIER].

	Rating				
	Excellent (1)	Very Good (2)	Good (3)	Fair (4)	Poor (5)
Quality of [THE SUPPLIER]'s Installation Process (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of [THE SUPPLIER]'s Service Support (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER] Sales Person's Responsiveness (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER] Sales Person's Expertise (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ease of doing business with [THE SUPPLIER] (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER]'s Reputation (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER]'s prices (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER]'s integrity – keeps its word (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Has our company's interests at heart (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Becomes part of our team to solve problems (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Contributes to our efforts to innovate (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understands our business (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintains direct relationships with many of our departments (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Builds social relationships with our people (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relates to people as individuals with unique characteristics and needs (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. How would you characterize the closeness of your collaboration with [THE SUPPLIER]? Please choose the category that best describes the closeness of your relationship with [THE SUPPLIER]:

- Transactional – We focus on product features and price along with delivery, installation, and service efficiency (1)
- Credible Source – In addition to the above, we highly value the business improvement ideas [THE SUPPLIER] gives us (2)
- Problem Solver – When we have problems with our production processes, we call in [THE SUPPLIER] for help (3)
- Trusted Advisor – When we have problems in a wide range of business areas; [THE SUPPLIER] is a great source of help (4)
- Strategic Partner – We collaborate with [THE SUPPLIER] on innovations in products, processes, and business ideas (5)
- N/A -- We do not have a business relationship with [THE SUPPLIER] (6)

5. How do you envision your relationship with [THE SUPPLIER] two or three years from now? Please choose the category that best describes the closeness of your relationship with [THE SUPPLIER] in two or three years:

- Transactional – We will focus on product features and price along with delivery, installation, and service efficiency (1)
- Credible Source – In addition to the above we will highly value the business improvement ideas [THE SUPPLIER] gives us (2)
- Problem Solver – When we have problems with our production processes, we will call in [THE SUPPLIER] for help (3)
- Trusted Advisor – When we have problems in a wide range of business areas; [THE SUPPLIER] will be a great source of help (4)
- Strategic Partner – We will collaborate with [THE SUPPLIER] on innovations in products, processes, and business ideas (5)
- N/A -- We probably will not have a business relationship with [THE SUPPLIER] in two or three years (6)

The next questions ask about how you interact with [THE SUPPLIER] in specific business situations.

6. How early in your innovation and development process do you involve [THE SUPPLIER]? Please choose the category that describes how early in the development process you typically involve [THE SUPPLIER]:

- We involve [THE SUPPLIER] from the beginning (1)
- Our team defines the problem first, then asks [THE SUPPLIER] for a solution on a sole source basis (2)
- Our team asks [THE SUPPLIER] to help write specs for a formal bidding process (3)
- Our team lets [THE SUPPLIER] know about the selection criteria in advance, but [THE SUPPLIER] must go through the process with other competitors (4)
- Purchasing distributes the RFP and selection criteria to [THE SUPPLIER] along with other competitors (5)

7. How does your company think about the value [THE SUPPLIER] brings? Please choose the category that most closely describes how your company thinks about the value [THE SUPPLIER] brings:

- [THE SUPPLIER]'s products are commodities. We value them because they have the lowest price (1)
- [THE SUPPLIER]'s ideas are valuable, but we always obtain competitive bids (2)
- We are willing to pay a premium for working with [THE SUPPLIER] – but the incremental value they bring is hard to quantify (3)
- We are willing to pay a premium for working with [THE SUPPLIER] – and we can clearly articulate their incremental value (4)
- Our collaboration with [THE SUPPLIER] creates value over and above exchanges of payments for products and services (5)

8. How does your company measure [THE SUPPLIER]'s performance? Please choose the category that most closely describes how your company measures [THE SUPPLIER]'s performance:

- We focus on price, zero errors, and responsiveness (1)
- In addition to the above, we value their ideas (2)
- We measure [THE SUPPLIER] on a wide range of standard vendor criteria (3)
- We work with [THE SUPPLIER] to jointly define measures and expectations and meet regularly to discuss their performance (4)
- We mutually develop ways to evaluate and improve the effectiveness of your collaboration (5)

9. To what extent do you trust [THE SUPPLIER] with internal information? Please choose the category that most closely describes how your company trusts [THE SUPPLIER] with internal information:

- We provide only publicly available information (1)
- We carefully screen the information we give to [THE SUPPLIER] beyond publicly available information (2)
- We have a confidentiality agreement with [THE SUPPLIER] that gives them access to sensitive information (3)
- We trust [THE SUPPLIER] with any highly sensitive information they need to help us solve our problems (4)
- Our organizations freely share sensitive information to facilitate collaboration (5)

10. To what extent do you do joint planning with [THE SUPPLIER]? Please choose the category that most closely describes how you do joint planning with [THE SUPPLIER]:

- Focus is volumes and price (1)
- We share our business plans so [THE SUPPLIER] can validate assumptions (2)
- We include [THE SUPPLIER] in our product and process planning process (3)
- We include [THE SUPPLIER] in our business and strategic planning process (4)
- We jointly conduct planning for our collaboration (5)

11. When [THE SUPPLIER] proposes an innovative solution how much of the risk does your company bear? Please choose the category that most closely describes how much risk your company typically bears:

- None – [THE SUPPLIER] must bear all risk (1)
- We invest time and information – but [THE SUPPLIER] must supply all the dollar investment (2)
- We share the costs and risks equally with [THE SUPPLIER] (3)
- We will invest most of the resources (4)
- We don't really account for the investments – we trust resources and benefits will balance over time (5)

12. Where does [THE SUPPLIER] rank compared to your other suppliers that sell products and services that compete with [THE SUPPLIER]'s?

- [THE SUPPLIER] is one of many (1)
- [THE SUPPLIER] is among the top 10 (2)
- [THE SUPPLIER] is among the top 3 (3)
- [THE SUPPLIER] is your main supplier (4)
- Our collaboration with [THE SUPPLIER] puts them in a category by themselves (5)

And finally, some questions about your company in general.

13. Please indicate to what extent you agree or disagree with the following statements

	Rating				
	Strongly Agree (1)	Agree (2)	Disagree (3)	Strongly Disagree (4)	Not Applicable (5)
Our company is innovative (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our business has been hurt by the great recession (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Our capital expenditures have been cut (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We continue to invest in productivity improvements (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. What percentage of your production lines include [The Supplier's] products? Adjust the slider to input your response:

\_\_\_\_\_ Percentage % (1)

15. In general, what are the most important priorities and issues your company will be addressing in 2013?

16. What other observations and suggestions do you have about how [The Supplier] can improve its relationship with your company?

### Supplier Internal Survey

Supplier Internal Survey – Relationship Assessment [The Supplier] will need to complete this internal survey for each customer who completes the external survey. So to begin, find a client: name and company and input the client name and location in the first question. Then answer all subsequent questions with this situation in mind.

Name of customer-location being evaluated

1. Overall rating – how would you rate your relationship with this customer? Would you say your relationship with this customer is...

- Excellent (1)
- Very Good (2)
- Good (3)
- Fair (4)
- Poor (5)

2. What factors lead you to rate your relationship with this customer as you did?

3. Relationship level — How would you characterize the closeness of your collaboration with this customer? Please choose the category that most closely describes the closeness of your relationship with this customer:

- Transactional – We focus on the product features and price along with delivery, installation, and service efficiency (1)
- Credible Source – In addition to the product and service the customer values the business improvement ideas we give them (2)
- Problem Solver – When this customer has problems with their production they call in [THE SUPPLIER] for help (3)
- Trusted Advisor – When this customer has problems in a wide range of areas, [THE SUPPLIER] is a great source of help (4)
- Strategic Partner – We collaborate with this customer on new products, processes, and business ideas (5)

4. How do you envision your relationship with this customer two or three years from now. Please choose the category that most closely describes the closeness of your relationship with this customer in two or three years:

- Transactional – We will focus on product features and price along with delivery, installation, and service efficiency (1)
- Credible Source – In addition to the above, the customer will value the business improvement ideas we give them (2)
- Problem Solver – When this customer will have problems with production they will call in us for help (3)
- Trusted Advisor – When this customer will have problems in a wide range of areas, they will ask for our help (4)
- Strategic Partner – We will collaborate with with this customer on new products, processes, and business ideas (5)

Where do you rank compared to this customer's other suppliers that sell products/services that compete with yours?

- We are one of many (1)
- We are among the top ten (2)
- We are among the top three (3)
- We are the dominant supplier (4)
- Our relationship puts us beyond competition (5)

5. How often have you made sales visits to this customer's location in the past 12 months?



- None (1)
- 1 (2)
- 2 (3)
- 3 (4)
- 4 or more (5)

6. What level of diagnostic services have you provided to this customer in the past 12 months?

- None (1)
- A [THE SUPPLIER] expert has walked through their plant and made suggestions for improvement (2)
- A diagnostic study has been offered, but it was declined by the customer (3)
- A diagnostic study has been offered and scheduled (4)
- A diagnostic study has been offered and completed (5)

7. Please rate the following aspects of your relationship with this customer on the following dimensions:

	Rating				
	Excellent (1)	Very Good (2)	Good (3)	Fair (4)	Poor (5)
Service support quality (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER] Sales Person's Responsiveness to customer needs (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER] Sales Person's Expertise (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being easy to do business with (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[THE SUPPLIER]'s Prices (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintaining our integrity – keeping our word (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Keeping this customer's interests at heart (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being part of their team to solve problems (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Contributing to their efforts to innovate (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding their business (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Maintaining direct relationships with many of their departments (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Building social relationships with their people (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relating to their people as unique individuals with unique needs (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 8. Please rate your relationship with this customer on the following additional dimensions:

	Strongly agree (1)	Agree (2)	Neither Agree nor Disagree (3)	Disagree (4)	Strongly Disagree (5)
We are able to charge full price for our products and services to this customer. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We sell a full range of products and services (like lubricants or insulation) to this customer. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have streamlined the costs to serve this customer. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This customer is costly to serve because they are unusually demanding. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This customer is costly to serve because of the nature of their business or their location. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We invest a great deal of sales time in this client. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We can't recover all the costs involved in servicing this account. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 8. Please rate your relationship with this customer on the following additional dimensions:

	Strongly agree (1)	Agree (2)	Neither Agree nor Disagree (3)	Disagree (4)	Strongly Disagree (5)
We are able to charge full price for our products and services to this customer. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We sell a full range of products and services (like lubricants or insulation) to this customer. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have streamlined the costs to serve this customer. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This customer is costly to serve because they are unusually demanding. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This customer is costly to serve because of the nature of their business or their location. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We invest a great deal of sales time in this client. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We can't recover all the costs involved in servicing this account. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please rate the relative profitability of this account.

	Significantly more profitable than average (1)	A little more profitable than average (2)	About average in profitability (3)	A little less profitable than average (4)	Significantly less profitable than average (5)
All things considered, this account is (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Your routine conversations about your product/services with the customer generally focus on...
- How your products/services work and on your service effectiveness (1)
  - How your products/services might fit into the customer's organization (2)
  - How your products/services create value for the customer (3)
  - The emerging challenges in the customer's business, their potential impact, and potential solutions that may not necessarily include your products/services (4)
  - Your organizations' respective competencies and how you could collaborate to innovate products and processes (5)
11. How does your team track information on the customer?
- The account team's process for sharing information about the customer focuses on your products and services (1)
  - The account team has no automated system, but shares information informally on an ad hoc basis using email, voice mail, or teleconferencing (2)
  - The account team has a customer tracking system, but it is not integrated with other departments in your company (3)
  - You have integrated, up-to-date customer information systems that all appropriate personnel throughout the organization can access and update (4)
  - Your alliance team maintains a shared data base that you mutually update and maintain (5)
12. When your product development organization is looking for feedback on a new idea or a new product /service test site...
- They do not seek input from this customer (1)
  - They will include this customer only at your request (2)
  - They actively seek input from this customer (3)
  - They will not proceed on a project without specific feedback from this customer (4)
  - They collaborate with the customer's product development organization to co-create new offerings (5)
13. To what degree do you work with this customer's other business partners (auditor, consultants, industry groups) to meet the customer's requirements?
- You talk with business partners only when required by the customer (1)
  - You occasionally talk with business partners to improve your sales efforts (2)
  - You routinely share ideas with business partners and occasionally make joint presentations (3)
  - You work proactively with business partners or find new partners to create unique solutions (4)
  - You collaborate with the customer to assemble a team of business partners to achieve your joint goals (5)
14. Please provide your initials (so we can follow up for clarification, if necessary).

— Thank you very much for taking the time to provide this important input.

## APPENDIX B: RELATIONSHIP QUALITY MODEL

Figure 30 presents the results of modeling relationship quality ratings as a function Trust, Commitment, and Satisfaction. Note that all three of these constructs are significantly related to Relationship Quality.

Figure 30: Relationship Quality Model

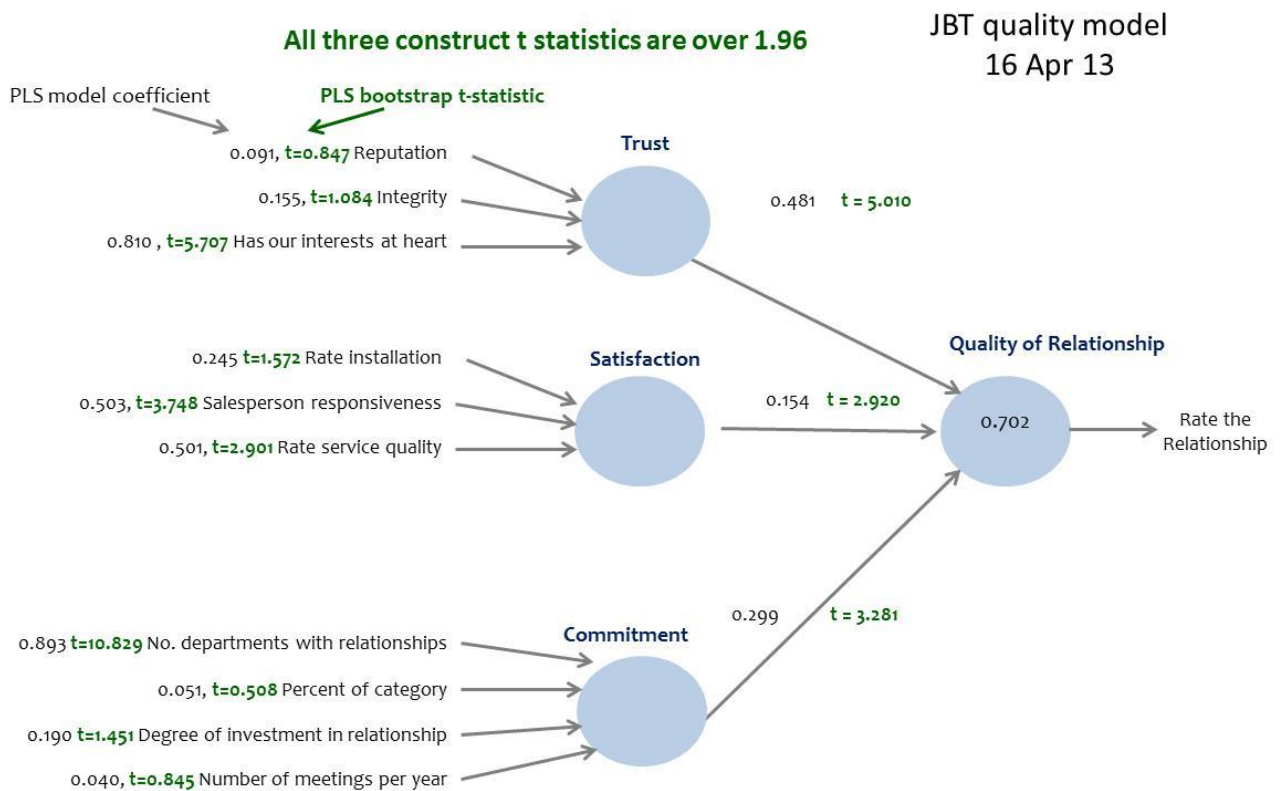


Figure 29 presents assessments of construct validity using the SmartPLS principle components analysis. To estimate the significance of the weights the bootstrapping technique with 500 samples was used. The significant weights are shown on the graphic on the previous page. Significant weights suggests construct validity.



Table 18 presents the evaluation of the reliability of the formative measures (Petter, Straub, and Rai, 2007) by using SPSS to calculate the variance inflation factors (VIFs). VIFs under 3.3 show that there is no multicollinearity. Nine of the ten measure have VIFs under 3.3. This shows there is no evidence of multicollinearity.

Table 18:

## Reliability analysis for Quality Model

VIFs under 3.3 are reliable



Construct	Measure	VIF
Trust	Reputation	2.597
	Integrity	4.253 <b>X</b>
	Has our interests at heart	3.237
Satisfaction	Rate installation	1.877
	Sales person responsiveness	1.996
	Service quality	1.666
Commitment	No. Depts with relationships	2.515
	Percent category	1.111
	Invest in relationship	2.221
	No. Meetings per year	1.882

Table 19 presents the results of the inter-item and item to construct correlations tests using the method given in Diamantopoulos and Winklhofer (2001) which they attribute to Bagozzi and Fornell (1982). This method calls for multiplying the measures by the individual PLS weights, summing them to create a measure of the respective construct and then using SPSS to create a correlation matrix. Here is that matrix for the quality model:

Table 19:

**Construct validity analysis for Quality Model**

Weighted measures must correlate to a greater extent with their respective construct

Correlations														
Quality of relationship	Quality of relationship	Trust				Satisfaction				Commitment			Investment in relationship	No. Meetings
		Trust	Reputation	Integrity	Our interests	Satisfaction	Installation	Salesperson	Service	Commitment	Percent of category	No. Depts		
Quality of relationship	1	.782	.552	.648	.772	.702	.497	.580	.574	.339	.085	.688	.406	.240
Trust	.782	1	.709	.828	.986	.710	.489	.565	.606	.270	.050	.632	.252	.117
Reputation	.552	<b>X</b> .709	1	<b>√</b> .739	.608	.447	.404	.320	.371	.153	.031	.368	.184	-.021
Integrity	.648	<b>√</b> .828	.739	1	.737	.623	.515	.551	.444	.163	-.014	.523	.080	.048
Our interests	.772	<b>√</b> .986	.608	.737	1	.700	.454	.551	.617	.283	.061	.633	.273	.137
Satisfaction	.702	.710	.447	.623	.700	1	.702	.813	.834	.359	.134	.652	.287	.277
Installation	.497	.489	.404	.515	.454	<b>√</b> .702	1	.477	.442	.320	.119	.594	.161	.137
Salesperson	.580	.565	.320	.551	.551	<b>√</b> .813	.477	1	.412	.253	.044	.532	.353	.399
Service	.574	.606	.371	.444	.617	<b>√</b> .834	.442	.412	1	.295	.155	.481	.149	.100
Commitment	.339	.270	.153	.163	.283	.359	.320	.253	.295	1	.919	.441	.286	.320
Percent of category	.085	.050	.031	-.014	.061	.134	.119	.044	.155	<b>√</b> .919	1	.067	.050	.203
No. Depts	.688	.632	.368	.523	<b>√</b> .633	.652	.594	.532	.481	<b>X</b> .441	.067	1	.401	.196
relationship	.406	.252	.184	.080	.273	.287	.161	.353	.149	<b>√</b> .286	.050	.401	1	.595
No. Meetings	.240	.117	-.021	.048	.137	.277	.137	.399	.100	<b>√</b> .320	.203	.196	.595	1

\*\* . Correlation is significant at the 0.01 level (1-tailed).  
 \* . Correlation is significant at the 0.05 level (1-tailed).

## APPENDIX C: DYADIC ANALYSES

The following pages present the analysis of average differences in customer and supplier assessments.

Figure 31 presents the overall sample mean of the customer's assessment of the level of relationship (y-value) plotted with the mean vendor assessment of the level of relationship as a function of the vendor's investment in the relationship. The first point plots mean assessments of the current relationship. And the second point is the mean values for the potential of the relationship in two or three years.

Figure 31:

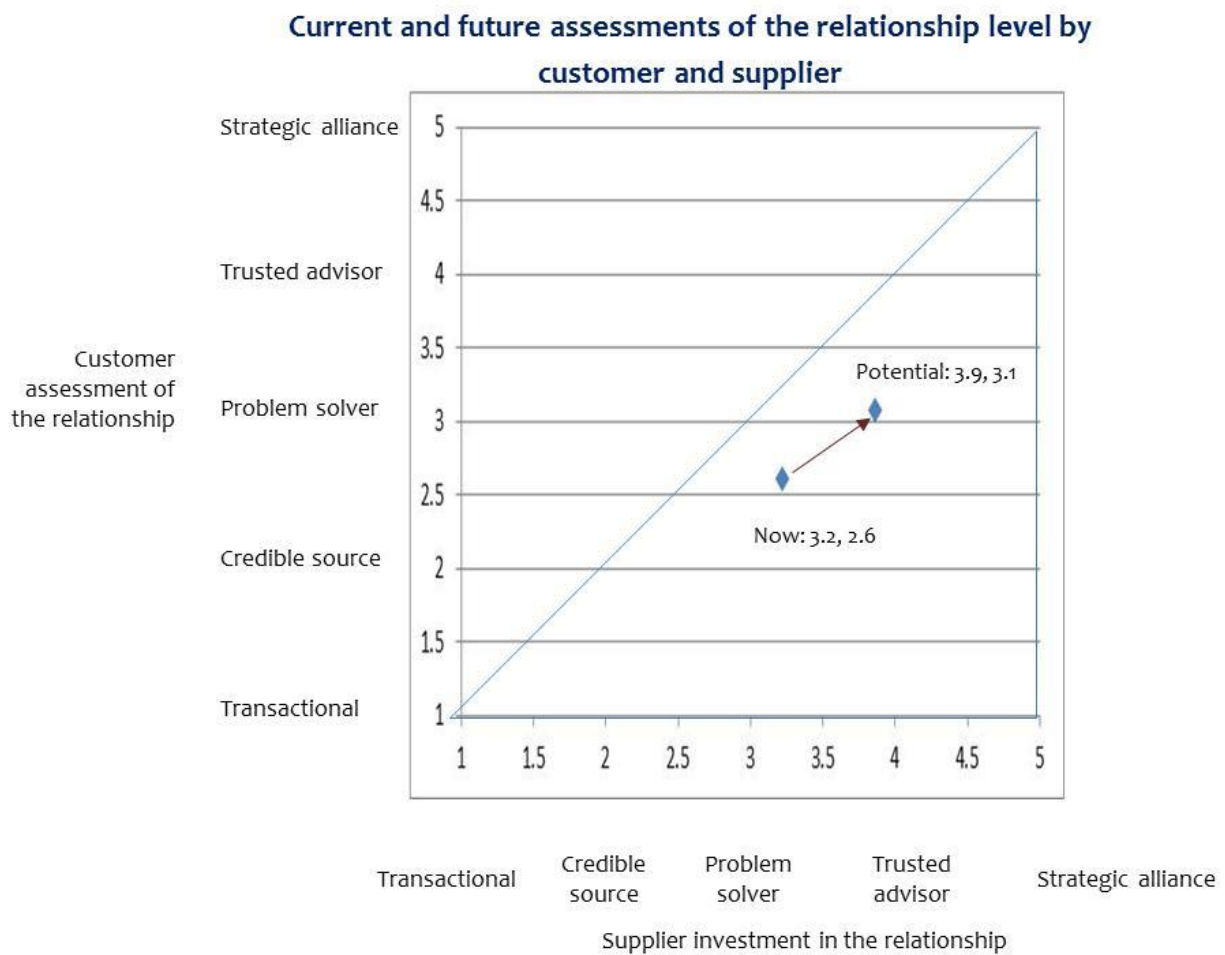
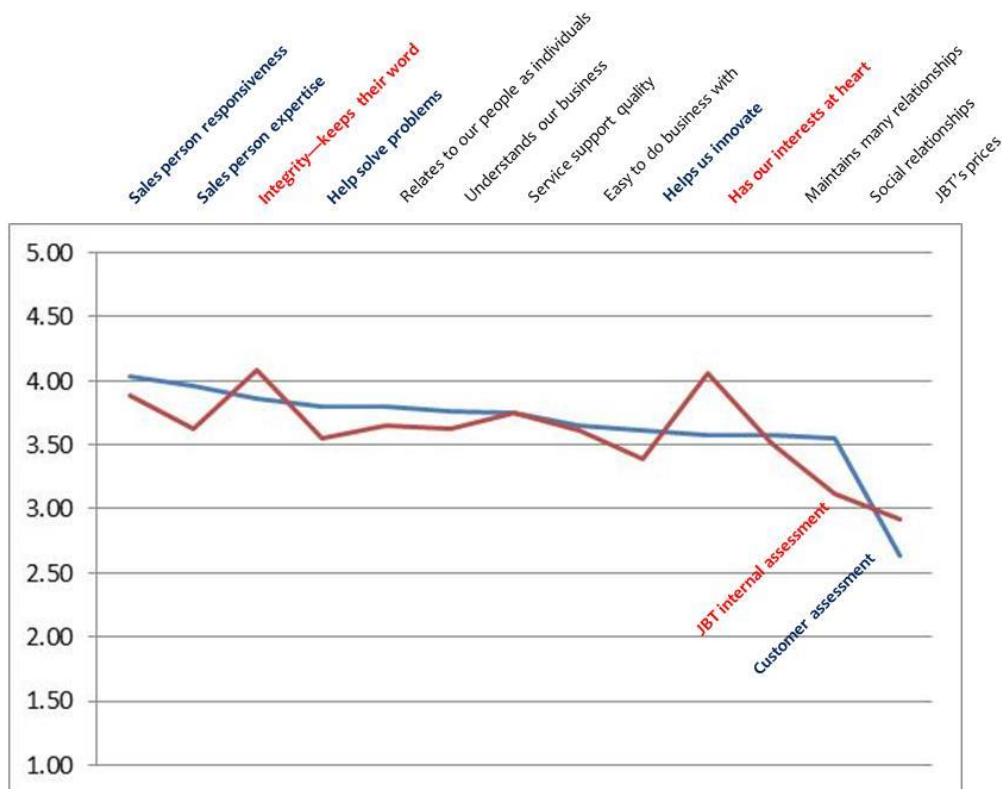


Figure 32 presents the mean values of the customer's assessment of thirteen marketing activities performed by the vendor. **The customer assessments are presented in blue** and the order of the attributes is highest to lowest by customer assessment value. It also shows the vendor's assessment of their performance and investment in each of these attributes and activities. **The vendor assessments are presented in red.**

**Figure 32:**

Mean responses for **JBT internal** and customer assessment of marketing activities



Meaningful differences include the fact that the customer rates LMFM higher in problem solving and expertise attributes than LMFM rates itself. Also, First, the relationship between buyer and seller was a complex process that unfolded from situation diagnosis to design and manufacture of a complex production system, installation, educating customer operators, and on-going provision of repair parts and service including consultation about production issues. Second there were a range of customer strategies –from cost reduction-based strategies to

strategies based on process innovation. Third, the philosophy of continuous improvement pervaded the industry, making managers in both customer and supplier organizations thoughtful about the issues and practices in the models rates itself higher in the areas of integrity and having the customer's interests at heart. Both of these discrepancies could be addressed in regular business review and development meetings.

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