

015-0023

Do Buyers and Suppliers Perceive Their Relationship
Similarly: An Empirical Study

Dr. Canan Kocabasoglu Hillmer
Cass Business School
106 Bunhill Row
London, EC1Y 8TZ, UK

Canan.Kocabasoglu-Hillmer.1@city.ac.uk

+44 (0) 20 7040 5293

Dr. Byung-Gak Son
Cass Business School
106 Bunhill Row
London, EC1Y 8TZ, UK

B.G.Son@city.ac.uk

+44 (0) 20 7040 8938

Professor ManMohan S. Sodhi
Cass Business School
106 Bunhill Row
London, EC1Y 8TZ, UK

M.Sodhi@city.ac.uk

+44 (0) 20 7040 0276

POMS 21st Annual Conference
Vancouver, Canada
May 7 to May 10, 2010

Abstract

Key suppliers have a significant impact on a company's performance in the marketplace. Prior studies have suggested supplier evaluations to be one mechanism that can be used for the purpose of communicating the buying company's needs. Empirical studies have shown that supplier evaluations are an effective tool in supplier development from the buyer's perspective (Krause, 1999). Yet, recent research has suggested that suppliers do not perceive this to be true (Prahinski and Benton, 2004). In addition, few studies have measured both parties simultaneously. Using data from 74 for pairs of buyers and suppliers, we test the level of congruence of the perception of the relationship by both parties. Our results suggest that there is disagreement on the perception of the relationship. We further analyze the data to identify the drivers of the phenomena and discuss the implications.

Introduction

As recent cases from companies such as Boeing show (Wall Street Journal, 2008), key suppliers have a significant impact on a company's success in the marketplace. A 'key' supplier is a supplier that sells a product or service that has either a significant profit impact or supply risk. The profit impact of a product or service is a result of "the volume purchased, percentage of total purchase cost, or impact on product quality or business growth". Alternatively, the supply risk stems from the "availability, [and/or] number of suppliers, competitive demand, make-or-buy opportunities, storage risks and substitution possibilities" (Kraljic, 1983).

These relationships are not only important due to the dependency of the buying firm on the supplier, but also because these are the relationships where the buying firm tends to invest in the infra-structure, technology and training of the supplier (Kocabasoglu and Suresh, 2006; Narasimhan and Das, 1999).

Given this idea that capitalizing on each other's resources or having a synergistic relationship that creates value larger than its individual elements, it is important to understand whether there are significant differences of opinion between business partners. If there are not, a major hurdle is overcome and companies can work on establishing mutually agreed partnership objectives and concern themselves with partnership execution. If on the other hand, they do not agree, questions arise on whether they will be equally able to internalize the objectives and make the best decisions to support those objectives or not.

To date, there has been limited research to confirm congruence in the partners' perception of their partnership. In this research, using the survey data collected from Korean consumer product goods retailers and their key suppliers, we explore how the buyers' and suppliers' perception vary on the different aspect of the relationship and the relationship performance.

This study makes the following contributions: First, it utilizes data that is collected from both parties of the relationship thereby extended previous studies that have considered the relationship from the perspective of one. Second, it establishes the areas where there is evidence of disagreement. Third, it assesses link between the disagreement and the performance of the relationship.

The rest of the paper is organized as following. The literature review section encompasses past discussions in buyer-seller and perception asymmetry literature. The methodology section covers the research methodology followed for this study. The results and discussion section provides the results of the statistical analysis and the implications. The results are summarized, the limitation of this study identified and future research opportunities are provided in the conclusion section.

Literature Review and Hypotheses

Within the context of buyer-seller relationships the questions of interest are whether the two players agree on how they perceive the relationship and the effectiveness of the relationship, and if they, don't agree, where the disagreement mainly is and what the factors that cause this discrepancy in perceptions are.

The potential reasons for the incongruence in the perception of the relationship has been discussed by various researchers. For example, Mohr & Puck (2003), who have suggested that partners in collaborative international inter-firm arrangements do perceive key variables, such as the performance of such arrangements, differently because of cultural difference at various levels. Similarly, Blois (2002) suggested certain exchanges between suppliers and customers can be perceived differently by both parties due to the different perceived values suppliers and customers expect from the exchange. Rudzki (2004) gave one possible explanation that when viewing the relationships, suppliers tend to regard them from the point of view of market competition and the value of the customer's business. On the other hand, customers tend to see the relationships from the perspective of market complexity and commodity value.

There has also been research on where the difference of opinion is. De Chernatony, Daniels & Johnson (1993) identified that suppliers and customers tend to perceive their competitive environments, which are the number and nature of competing firms, differently. Spekman, Salmond & Lambe (1996) identified the presence of asymmetry between the perceptions of suppliers and customers on the level of inter-dependency, partnership related goals, and the strategic direction of the partnership. Ellram (1995) reported that suppliers and customers in supply chain partnerships showed significant differences in the main motivations for entering partnerships, reasons for establishing

and maintaining partnerships, and factors for the success and failure of a partnership. Marchington & Vincent (2004) observed that customers tend to believe their relationships as trust based relationships, while suppliers tend to perceive their relationships forced compliance by their customers. They discovered that suppliers and customers tend to perceive the nature of their relationships differently, for example a relationship can be perceived as 'open and trusting' by a customer but on the other hand 'forced compliance' by suppliers depending on the various factor such as the extent of risk sharing. Ellram & Hendrick (1995) found that suppliers and customers held significantly different perceptions about the various aspects of supply chain partnerships; futuristic orientation of partnerships, risk sharing system, loyalty to each others, and level of information sharing.

To sum up, studies have been carried out in understanding 'why' there are differences in the perception of the relationship between buyers and supplier and 'where' the differences are. Most of these studies have been interested in one aspect of the relationship. In addition, the impact of this incongruence on the relationship performance has not yet been extensively studied.

Methodology

The Sample

The data for this study was collected from the Korean consumer product goods industry, specifically from large discount retailers and their supplier distribution channels. At the start of the study, 54 discount retailers comprising of 34 large discount store chains, 10 supermarket chains and 10 alternative retailers including 5 Internet shopping outlets and 5 television home shopping companies were identified from the publications of Korea's National Statistical Office, the Ministry of Trade, Energy and Industry and the Korea Chainstore Association. As Flynn *et al.* (1990)

argued, depending on the research question, a survey can be administered to a certain group which is homogeneous with respect to at least one characteristic rather than sampling at random from the entire population. Given the motivation and how key suppliers are defined in this study, regarding supermarket and alternative retailers, the sample was restricted to top ten retailers in terms of their annual revenue and excluded small- and medium-sized family-run supermarkets and alternative retailers.

For these 54 retailers, the first contact was made with their supply-chain managers, purchasing managers or merchandisers with the request that they list their key suppliers and select a contact person from that supplier. Initially 14 retailers agreed to participate in the survey, however, two of them failed to provide adequate contact details regarding their key suppliers. For the remaining 12, contact details for 92 key supplier contacts were received. These contacts were mailed the supplier-side questionnaires. Of these 92 contacts, 83 responded but three responses had to be discarded because of excessive amount of missing data. Corresponding to the remaining 80 supplier responses, 80 retailer-side questionnaires were sent to the contacts on the retailer-side, who had initially provided us with the contact details of these suppliers. We got back 76 responses but had to drop two because of excessive missing data. Thus the final number of fully validated responses was 74 pairs (or 148 questionnaires) corresponding to 74 partnerships among 12 retailers and 70 suppliers.

The Survey

28 questions were developed and directed to both parties involved in the buyer- seller relationship to measure the level of performance factors and the performance of a supply chain partnership. All items were assessed using a seven-point Likert-type scale

The questions for the different aspects of the relationship and relationship

performance were adopted from earlier studies, wherever possible. Table 1 provides a list of the items of the former.

Aspects of the relationship	Indicators
Information Exchange (IT)	Capacity of external information sharing in general
	Capacity of information exchange of 1) standardized and 2) customized information exchange with its specific partner
	Willingness to share 1) operational and 2) strategic supply chain management information with its specific partner
Trust (TR)	Level of trust towards its specific partner
	Abuse of customers' buyer power
	Prime customer/supplier
Joint Partnership Management System (JS)	Existence of formalized guidelines for supply chain partnership management
	Existence of well defined roles and responsibility for engaging partnerships
	Opportunity for suppliers' participation in the decision-making process of their customers
	Existence of regular communications between partners
	Existence of benefit and risk sharing system
Relationship-specific Assets (RAT)	Existence of IT investment for the partnership with the specific partner
	Existence of Non-IT investment for the partnership with the specific partner
Partner symmetry (PAT)	Degree of partner symmetry with the specific partners in 'willingness to change'
	Degree of partner symmetry with the specific partners in 'keeping commitments'

Table 1: Measures Used for Factors of Performance of a Supply Chain Partnership.

In terms of performance questions, *subjective* measures of performance were employed. These include such perceptual measures as the partners' satisfaction with the partnership performance and the extent to which the partnership has achieved its overall objectives (Killing 1983; Geringer and Herbert 1991; Glaister and Buckley 1998; Kale, Dyer and Singh 2002). While, due to the motivation of this study, subjective measures were utilized, there is evidence of positive correlation between objective and subjective measures for collaborative arrangements (Dess and Robinson 1984; Geringer and Herbert 1991; and Glaister and Buckley 1998).

With respect to the relationship performance construct the following were utilized: One, the scheme for classifying alternate approaches for measuring business performance suggested by Venkatraman & Ramanujam (1986). Two, the multi-

dimensionality of partnership performance suggested by Kale, Dyer & Singh (2001). The construct encompasses three dimensions: extent of goal achievement, enhancement of company's competitive position contribution at the operational level. For the second dimension, the measures used by Geringer and Herbert (1991) and Glaister and Buckley (1998) were adopted. The items for the other two were developed specifically for this study. With respect to the first dimension, participants were asked an open question to identify three main objectives of their supply chain partnership with a specific partner and to evaluate the achievement of these goal(s) (Kale, Dyer and Singh 2001). Regarding the third dimension, measures were developed based on SCOR 3.1 Level One Metrics pertaining to reliability; forecast; flexibility; cost, and inventory.

Relationship Performance	Indicators
Extent of Goal Achievement (PEGOAL)	Three major reasons for forming/ maintaining their supply chain partnerships and their evaluation of the achievement so far
Enhancement of Company's Competitive Positions (PECORP)	Profit level
	Cost control
	Technology development
	New product development
	Knowledge transfer
	Manufacturing and quality control
	Marketing activities
	Sales level
Contribution in Operational level (PESCM)	Customer service
	Forecasting accuracy
	Inventory level
	Lead time
	Supply chain responsiveness
	Supply chain management cost reduction

Table 2: Different aspects of the performance of a supply chain partnership.

Analytical Techniques

The responses were analysed using two analytical methods, 1) Multivariate analysis of variance (MANOVA) and 2) Pearson's correlation. Multivariate analysis of variance is a technique for assessing the differences between group means, where the

null hypothesis tested is the equality of vectors of means on multiple dependent variables across group (Hair *et al.*, 1998). ‘The six-step model building process’ by Hair *et al.* (1998) was used to ensure that the requirements of each step, from the problem definition to the critical diagnosis of the result, were met.

Multiple regression has been frequently used in data analysis for modeling multiple aspects of supply-chain-partnership performance (Harrigan 1988, Heide and Miner 1992, Dyer 1996, Saxton 1997, Spekman, Kamauf and Myhr 1998, Jap 1999, Glaister and Buckley 1999, Ellinger 2000). For our data, we also tested the main assumptions underlying regression: linearity, constant variance of residuals, and normality of residuals. The analysis suggested that there were no significant violations in the data set.

Before the main analysis, three observations were dropped as outliers. In addition, to remedy the violation of the homogeneity of the variance-covariance matrices, random deletion, suggested by Field (2000), of five cases in the supply group to yield equal cell sizes (65 in each cell) between supplier and customer groups was conducted.

Results and Discussion

The results of the MANOVA, where the difference of the group means of the retailers and suppliers with respect to their perception of the different aspects of the relationship are provided in Table3. The results suggest that there was a significant difference in how the retailers and key suppliers perceived the relationship.

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.985	1728.347	5.000	133.000	.000
	Wilks' Lambda	.015	1728.347	5.000	133.000	.000
	Hotelling's Trace	64.975	1728.347	5.000	133.000	.000

	Roy's Largest Root	64.975	1728.347	5.000	133.000	.000
Type of SCP Participants	Pillai's Trace	.082	2.378	5.000	133.000	.042
	Wilks' Lambda	.918	2.378	5.000	133.000	.042
	Hotelling's Trace	.089	2.378	5.000	133.000	.042
	Roy's Largest Root	.089	2.378	5.000	133.000	.042

Table 3: MANOVA on key aspects of the relationship

Once the significance tests of the multivariate analyses confirms the presence of group difference on the dependent variates, a set of follow-up analyses needs to be performed to assess where the significant difference on variates originates. For this purpose, ANOVAs were run for each dimension in table 1.

The results of the follow-up analysis of separate ANOVAs on IT, TR, JS, PA, and RA are presented in Table (4). The results of the follow-up analysis suggested that there were significant differences between the suppliers and customers in terms of how they perceived the level of joint partnership management system and trust.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Type SCP Participants	RAT	.188	1	.188	.482	.489
	PAT	5859.360	1	5859.360	2.622	.108
	IT	33.271	1	33.271	2.602	.109
	TR	80.597	1	80.597	11.200	.001
	JS	39.720	1	39.720	4.709	.032

Table 4: The follow-up analysis of separate ANOVAs for MANOVA I on IT, TR, JS, PA, and RA

The results for the test of congruence on the perception of the performance are provided in table 5, which again suggests a difference in perception between the buyer and key supplier.

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.967	1222.780	3.000	126.000	.000
	Wilks' Lambda	.033	1222.780	3.000	126.000	.000
	Hotelling's Trace	29.114	1222.780	3.000	126.000	.000
	Roy's Largest Root	29.114	1222.780	3.000	126.000	.000
Type of SCP Participants	Pillai's Trace	.126	6.073	3.000	126.000	.001
	Wilks' Lambda	.874	6.073	3.000	126.000	.001

	Hotelling's Trace	.145	6.073	3.000	126.000	.001
	Roy's Largest Root	.145	6.073	3.000	126.000	.001

Table 5: Multivariate tests for Model II: Percpetual difference among partners of supply chain partnership on its performance

Given the significant MANOVA, a follow-up analysis of separate ANOVAs on each of the dependent variables PEGOAL, PECORP and PESCM were performed. The results of the follow-up analysis of separate ANOVAs are presented in Table (6). The results of the follow-up analysis suggested that there was a significant difference among suppliers and customers in their perception of the performance measure 'contribution of supply chain partnerships to SCM operation' at .01.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
Type SCP Participants	PEGOAL	2.094	1	2.094	1.247	.266
	PECORP	67.969	1	67.969	.948	.332
	PESCM	624046.531	1	624046.531	7.278	.008

Table 6: The follow-up analysis of separate ANOVAs for MANOVA I on PEGOAL, PECORP and PESCM

As a final phase of this research, the relationship between the magnitude of the difference of the perceptions between the retailer and supplier on the three dimensions of partnership performance was assessed. For this purpose the following variables were created, DIT, DTR, DJS, DRAT, DPAT, DGOAL, DCORP and DSCM, where each variable was created by calculating the absolute value of the difference between the responses given by the supplier and the customer on a same question.

Three regressions were tested to assess the relationship between the different aspects of the relationship and relationships performance, the results of which are provided in table 7. A separate regression was carried out for each dimensions of relationship performance.

Results of Regression Analysis I						
Performance of Partnership						
Perception Asymmetry Variables	Extent of Goal Achievement ⁽¹⁾ (Y ₁)		Enhancement of Company's Competitive Positions ⁽²⁾ (Y ₂)		Contribution at SCM Operational Level ⁽³⁾ (Y ₃)	
	B	β	B	β	B	β
Intercept	4.131**		93.455**		56.525	

DIT (X ₁)	-0.008	-.025	.192	.058	.375	.154
DTR (X ₂)	.009	.021	-.437	-.088	-.934	-.256
DJR (X ₃)	.099	.192	-.591	-.104	.039	.009
DRAT (X ₄)	.074	.110	-1.205	-.162	.658	.120
DPAT (X ₅)	-.086	-.179	-.050	-.009	-.904	-.232
<i>R</i> ²		.051		.053		.151
Adjusted <i>R</i> ²		-.0021		-.019		.087
<i>F</i>		.710		.602		2.354*

Table 7: Summary of three models for Y₁, Y₂, and Y₃ respectively, (*p<0.05, **p<0.01, (1) n=71, (2) n=71, and (3) n=71)

As it can be seen from the results presented in Table (7), the *R*²s first (Y₁) and the second (Y₂) models were negative and the estimations themselves were not significant. Regarding the third model (Y₃), even though the estimation is significant at .05 level, there is no significant standardised coefficient in the third model. The results of the regression analyses suggested little evidence that the perception asymmetry is the predictor for the performance of a supply chain partnership. This result was similar to the findings of Mohr & Puck (2003), where no significant associations were found between the level of perception difference of key variables and the performance of international joint ventures.

Conclusion

As mentioned above, issues related to congruence in the perception of the relationship and its association with the performance of collaborative inter-firm arrangements are important due to the possible negative impact of this asymmetry on the success of partnerships. Thus, this research set out to answer two questions: 1) Do buyers and key suppliers see things differently? 2) Is this difference in any way related to the performance of supply chains? The results of this study show significant differences in how buyers and their key suppliers perceive the relationship and the performance of that relationship.

This study does bring up an interesting future research opportunity, that is whether there are other reasons for the agreement in the perception of the relationship to be important. One particular interesting question would be to see whether perceptual

congruence leads to longer-term relationship or whether it helps for business to weather the difficult times better.

References

- Blois, K.J (2002), "Business to Business Exchanges: a rich descriptive apparatus derived from Macneil's and Menger's analyses", *Journal of Management Studies*, **39** (4) 523-551.
- Chernatony, L., Daniels, K. & Johnson, G. (1994) "Competitive positioning strategies mirroring sellers' and buyers' perceptions?", *Journal of Strategic Marketing*, **44** (3) 229-248.
- Dess, G.G. & Robinson Jr., R.B. (1984) "Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit", *Strategic Management Journal*, **5** (3) 265-273.
- Dyer, J.H. (1996) "Specialized supplier networks as a source of competitive advantage: Evidence from the auto industry", *Strategic Management Journal*, **17** (4) 271-290.
- Ellinger, E.A. (2000) "Improving marketing/logistics cross-functional collaboration in the supply chain", *Industry Marketing Management*, **29** 85-96.
- Ellram, L.M. & Hendrick, T.E. (1995) "Partnering characteristics: A dyadic perspective", *Journal of Business Logistics*, **16** (1) 41-64.
- Ellram, L.M. (1995) "Partnering pitfalls and success factors", *International Journal of Purchasing and Materials Management*, **Spring** 35-44.
- Field, A. (2000) *Discovering Statistics, Using SPSS for Windows*. London: SAGE Publication
- Flynn, B.B., Sakakibara, S., Schroeder, R.G., Bates, K.A. & Flynn, E.J. (1990) "Empirical research method in operations management", *Journal of Operations Management*, **9** (2) 250-284.
- Glaister., K.W. & Buckley, P.J. (1998) "Measures of performance in UK international alliance", *Organizational Studies*, **19** (1) 89-118.
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1998) *Multivariate Data Analysis*. 5th ed. New Jersey: Prentice Hall
- Harrigan, K.R. (1988) "Strategic alliances and partner asymmetries", *Management International Review*, **28** (4) 53-72.
- Heide, J.B. & Miner, A.S. (1992) "The shadow of the future: Effects of anticipated interaction and frequency of contact on buy-seller cooperation.", *Academy of Management Journal*, **35** (2) 265-291.
- Jap, S.D. (1999) "Pie-expansion efforts: Collaboration processes in buyer-supplier relationships.", *Journal of Marketing Research*, **36** (4) 461-467.
- Kale, P., Dyer, J. & Singh, H. (2001) "Value creation and success in strategic alliances: Alliancing skills and the role of alliance structure and system", *European Management Journal*, **19** (5) 463-471.
- Killing, J.P. (1983) *Strategies for Joint Venture Success*. New York: Praeger
- Kocabasoglu, C., and Suresh, N., 2006, "Strategic Sourcing: An Empirical

- Investigation of Concepts and Practices in U.S. Manufacturing Firms”, *Journal of Supply Chain Management*, spring, vol. 42, no. 2, pp. 4-16.
- Kogut, B. (1988) “Joint ventures: Theoretical and empirical perspective”, *Strategic Management Journal*, **9** (4) 319-332.
- Kraljic, P. “Purchasing Must Become Supply Management,” *Harvard Business Review*, September-October 1983, pp. 109-117.
- Marchington, M.P. & Vincent, S. (2004) “Analysing the Influence of Institutional, organizational and interpersonal forces in shaping Inter-organizational relations”, *Journal of Management Studies*, **41** (6) 1029-1056.
- MOCIE (2000) *Enforcement Plan for ‘Development of Logistics Industry in 2000’*, Ministry of Commerce, Industry and Energy (Korea).
- MOCIE (2001) *Enforcement Plan for ‘Development of Logistics Industry in 2001’*, Ministry of Commerce, Industry and Energy (Korea).
- MOCIE (2002) *Enforcement Plan for ‘Development of Logistics Industry in 2002’*, Ministry of Commerce, Industry and Energy (Korea).
- MOCIE (2002) *Proposal for the Strategy of Logistics Industry in 2010*, Ministry of Commerce, Industry and Energy and Council of Industrial Development (Korea).
- MOCIE (2003) *21st Century Logistics Industry Policy Direction - Improving Competitive of Korean Logistics Industry (2003 - 2007)*, Ministry of Commerce, Industry and Energy, Kocham, the Committee on Logistics.
- MOCIE (2003) *Enforcement Plan for ‘Development of Logistics Industry in 2003’*, Ministry of Commerce, Industry and Energy (Korea).
- Mohr, A. T., & Puck, J. F. (2003), “Asymmetries in partner firms’ perception of key variables and the performance of international joint ventures”, *Bradford University, School of Management Working Paper Series*, 03/35
- Narasimhan, R., Talluri, S. and Mendez, D. 2001. “Supplier Evaluation and Rationalization via Data Envelopment Analysis: An Empirical Investigation, *The Journal of Supply Chain Management*, Summer, pp. 28-37.
- Rudzki, R.A. (2004) “The advantages of partnering well”, *Supply Chain Management Review; Mar2004*, **8** (2) 44-51.
- Saxton, T. (1997) “The effect of the partner and relationship characteristics on alliance outcomes”, *Academy of Management Journal*, **40** (2) 443-461.
- Spekman, R.E., Kamauff, J.W. & Myhr, N. (1998) “An empirical investigation into supply chain management”, *International Journal of Physical Distribution & Logistics Management*, **28** (8) 630-650.
- Spekman, R.E., Salmond, D.J. & Lambe, C.J. (1997) “Consensus and collaboration: Norm-regulated behaviour in industrial marketing relationships”, *European Journal of Marketing*, **31** (11/12) 832-856.
- Venkatraman, N., Ramanujam, Vasudevan (1986) “Measurement of business performance in strategy research: A comparison of approaches”, *Academy of Management Review*, **11** (4) 801-816.