

# ANTECEDENTS OF RELATIONSHIP FUNCTIONS IN INDUSTRIAL MARKETS: A CROSS NATIONAL COMPARISON

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## Abstract

The mix of direct and indirect functions of interfirm relations from a supplier's perspective are reported for a large scale cross national study of interfirm relations carried out in Europe and Asia. Hypotheses regarding four types of antecedents of relationship functions are proposed and tested i.e. relationship duration, importance, trust and relative power.

## The Functions of Interfirm Relationships

There has been considerable work in marketing over the last decade or so examining the nature and benefits of interfirm relations – particularly long-term relations. Increasingly there is focus on considering the trade-offs between benefits and costs in a relation, or what has come to be termed “relationship value” (Biong et al 1997, Ravald and Gronroos 1996, Sheth and Sharma 1997). Value creation is essential for both customers and suppliers. However Walter et al (2001) note that the majority of work to date has focussed on customer value creation. This paper begins to redress that gap, considering the ways relationships create value for the supplier.

Value creation occurs in part via the effective performance of what has been termed relationship functions (Walter et al 2001) The functions of a business relationship for an individual firm arise from within the relationship itself and from the way the relationship is connected to other relations in a business network (Håkansson and Snehota 1995, Walter et al 2001). Based on Walter et al (2001), from a supplier's perspective the functions of customer relations are as follows. Direct functions concern the way in which a customer relation contributes to the profitability of a supplier. Some relations are directly profitable, which is termed the *profit function*. The *volume function*, refers to customers that contribute to profits indirectly by enabling better capacity utilization and economies of scale or scope. The *safeguard function*, refers to customers maintained as an “insurance against crises or difficulties with other customers” (ibid p367). They act as emergency customers for volume purposes but not necessarily on favourable terms.

Indirect functions result from the way the customer is connected to other relations and firms. The *innovation function* is where a customer is a source new product and service ideas. Walter et al (2001) see this as an indirect function but innovation ideas may arise also directly within a relationship as in the case of serving lead users (von Hippel 1986, 1988). Innovative ideas stem also from customer connections to other firms and information channels. The *market function* refers to the way customers support the development of new markets and commercial relations for a supplier via referrals or reputation effects. The *scout function* concerns customers that are sources of valuable market information through their other relations and information channels. Lastly, the *access*

*function* focuses on the way a customer through its own networks of relations acts as a bridge or go between to assist suppliers to access relevant organisations that play an important role in the relevant market or industry e.g. governments, market regulatory agencies, financial institutions.

As Walter et al (2001) note, there is a need to examine the link between the nature and importance of the functions performed in relations from a supplier's perspective and other relationship specific constructs. The study of interfirm relations has identified a number of dimensions of relations that are likely to affect relationship conduct and performance (for an overview see Wilson 1995). Our basic working hypothesis is that as relations develop and mature over time through ongoing interactions they create the platform for a greater assortment of relationship functions to be performed and greater effectiveness within these. This hypothesis is consistent with the stage models of relation evolution (e.g. Ford 1980, Dwyer Schur and Oh 1987) to the commitment-trust model of relationships proposed by Morgan and Hunt (1994) and to the work of the IMP group on the role and importance of long term, cooperative relations (e.g. Hakansson and Snehota 1995)

To begin with the amount of business conducted in a relationship may be small, and the degree of trust will limit the ability to rely on each other for information and advice, and resource adaptations are not likely to exist. Over time the development of trust will increase the scope for developing and utilising more relationship-specific resources resulting in the growing importance of relationship functions. Also, transaction costs are likely to decrease leading to an increasing amount of business being conducted in the relation, thereby contributing to the profit and volume functions. Lastly, increasing trust provides a basis for the development and use of indirect functions. In addition to the stage of development of a relation the relative power of the supplier will affect their ability to get the customer to perform desired relationship functions. On the basis of the foregoing we propose the following hypotheses.

- H1 The importance of customer relationship functions to a supplier will be greater, the greater the duration of the relationship
- H2 The importance of the volume and profit functions to a supplier will be greater, the greater the percentage of business conducted with the customer
- H3 The importance of relationship functions to a supplier will be greater, the greater the degree of trust in the relationship
- H4 The importance of the relationship functions to a supplier will be greater, the greater its power relative to the customer in the relationship.

### **Data Base**

The database used to empirically test the hypotheses stems from an extensive international collaborative program of research originated in Europe by the Industrial Marketing and Purchasing (IMP) Group and extended to Asian countries by the authors. Personal interviews were carried out with industrial suppliers about "important" domestic and international customers. The marketing or purchasing operative most responsible for handling the relationship was interviewed. While attempts were made to focus on similar industries and products in each country this was not always possible. In Asian countries various methods were used to develop lists of firms for interview, including Chambers of Commerce and industrial organisations. Interviews were carried out by research students in India and Thailand and by industrial market researchers in the Phillipines. In China, the Chinese Bureau of Statistics drew the sample of firms and conducted the interviews. Space limits prevent a fuller description of the sampling methodology-apply to the authors for further details.

Because of the diversity of sampling methods used no claims can be made about the representativeness of the sample. The aim was to gather in-depth data in a systematic and structured manner for interfirm relations in a variety of cultures and contexts.

The questionnaire was designed by the IMP group to cover many aspects of relationship structure, conduct and performance and took up to two hours to complete. Only part of the questionnaire is used here for analysis. It was administered in English in all countries except China, Sweden, France and Germany, where it was translated and back translated in order to check for inconsistencies (e.g. Dawson et al 1997). The resulting database comprises 447 supplier interviews about their customer relations, including both domestic and international relations. 165 concern domestic or international supplier relations within Europe (86 from Sweden, 42 from Germany, 20 from Holland, 13 from France, 4 from Italy) and the Asian data comprise 282 supplier relations (100 from China, 100 from Thailand, 63 from India and 19 from the Philippines) focusing on a mix of domestic as well as international relations with Asian and Western countries. The supplier companies in the database belong to different industries, ranging from raw materials to equipment.

### Measures

The questionnaire was not designed specifically to test the hypotheses developed above and measures had to be developed from the data collected.

- a) Relationship functions. Respondents indicated their agreement with statements describing the importance of different functions using a scale ranging from strongly disagree (1) to strongly agree (5), except for the profit function where the relation's profitability over the last five years was rated from very bad (1) to very good (5). The measures available cover most but not all of the functions identified by Walter et al. Exploratory factor analysis supports the distinction between direct and indirect functions. It resulted in three direct functions being retained as single item measures i.e. profit, volume and range of products purchased. Two multi-item measures of indirect functions were retained: a two item Ideas Function concerning the customer as a source of product and production ideas ( $\alpha = 0.82$ ), interpreted as a measure of the innovation and scout functions and a three item Network Function, concerning referrals, bridging and image enhancement functions ( $\alpha = 0.76$ ), interpreted as a measure of the market and access functions.
- b) Duration was measured in terms of the years since the first delivery or purchase was made to time of interview.
- c) The extent of business conducted was measured by the Percent of Business accounted for by the customer of the supplier's total sales of the focal product in the customer's country
- d) Trust was measured using a three item scale rating agreement with the statements "we feel we can trust this customer completely;" "we have full confidence in the information provided to us from this customer;" and "we are convinced that this customer can handle confidential information from us." The measure is based on that used by Blakenberg-Holm et al (1996). Factor analysis shows that these items load on one factor and the alpha is 0.70.
- e) Relative power. Relative power is operationalised as the difference between the perceived dependence of the supplier on the customer and customer on the supplier. Respondents rated the impact on them (their customer) if they lost the customer (supplier) on a scale ranging from negligible (1) to disastrous (5). High scores indicate greater relative dependence on customer and hence greater relative customer power.

## Results

Table 1 shows the mean ratings for each relationship function by country and region. No statistical tests are used to compare the means across countries and regions because of the problems of comparing means from questionnaires using different languages and carried out in different cultures (Craig and Douglas 2000, Voss and Stem Jr. 1997). However, comparing differences in the relative order of importance of the different functions within countries and regions suggests that in general direct functions are perceived as more important than indirect functions, as is to be expected. The European sample is more likely to perceive indirect functions as more important relative to direct functions. A comparison of the difference between the average ratings for direct and indirect functions in the European samples shows that the difference is smaller for the European sample (mean difference = 0.61 standard deviation 0.94) than the Asian sample (mean difference = 0.90 standard deviation 1.11). This difference is significant at the 0.05 level. (A comparison of differences in means is more legitimate than a simple comparison of means as any systematic bias in response styles across countries and regions will have less impact with a difference measure (Kish 1967)). This difference could in part reflect differences in the stage of development of the relations in the two samples. On average the mean duration of the relations in the Asian database is 6.8 years compared to 19.1 years in the European sample, which is significant at the 0.001 level. This indicates that the sample of European relations tend to be more developed and have had more chance to develop closer bonds and develop and utilise indirect functions.

**Table 1: Means Scores of Functions for Countries and Regions**

	All	Europe	Sweden	Holland	France	Germany
N (min)	382	137	80	19	8	21
Profit	3.89	3.74	4.06	3.65	3.77	3.24
Volume	4.10	3.65	3.92	3.20	4.46	3.12
Range	2.92	2.52	2.33	3.16	3.92	2.20
Ideas	2.56	2.55	2.62	2.81	3.12	1.92
Network	3.12	2.87	2.98	3.21	3.56	2.38
	All	Asia	Thailand	China	India	Philippines
N (min)	382	232	95	81	40	16
Profit	3.89	3.98	4.11	3.76	4.24	3.63
Volume	4.10	4.37	4.26	4.38	4.75	3.63
Range	2.95	3.20	2.94	3.35	3.71	2.32
Ideas	2.56	2.56	2.53	2.52	3.02	1.65
Network	3.20	3.40	3.44	3.34	3.52	3.14

To test the four hypotheses, stepwise least squares regression was used to examine relationships between the four proposed antecedents and relationship functions. Separate analyses were carried out for the European and Asian samples and for individual countries with large enough samples. The results are shown in Table 2. Duration enters the equation for the direct functions in the European database but not in the Asian. This may be partly accounted for by the longer average duration of the European relationships, as noted above. The exception is the case of India where it seems that newer relationships tend to be more important in terms of the volume function. Duration does not enter the regression equation of either of the indirect functions. Thus support exists for Hypothesis 1 in the case of Europe and direct functions.

Share of sales enters the equation for the profit and volume functions in the case of Asia and specifically China for profit and India for amount. It also is a significant predictor of the ideas

function in Asia, specifically Thailand. Some support for Hypothesis 2 exists for the Asian database. Trust is a strong predictor in a number of equations, particularly the indirect functions, lending support to Hypothesis 3. Lastly, relative power enters the equation in the case of India for the volume function and for the network function in the case of Europe. However the sign indicates that the greater the customer's relative power the more important those functions are. This probably reflects the impact of the performance of important functions on the dependence and hence power of the customer and does not support Hypotheses 4.

**Table 2: Beta Coefficients for Function Antecedents by Country and Region**

	All	Europe	Sweden	Asia	Thailand	China	India
<b>PROFIT</b>							
N=	365	118		246		77	
Duration		.20*					
Share Sales				.15*		.23*	
Trust	.18**			.21**		.28*	
Rel. power				.13*			
R <sup>2</sup>	.03**	.04*		.08**		.13**	
<b>VOLUME</b>							
N=	323	119	74	245			50
Duration		.35**	.40***				-.34*
Share Sales		.		.15*			.27*
Trust	.15**	.20*		.17**			
Rel. power	.16**	.18*					
R <sup>2</sup>	.04***	.20***	.16***	.05**			.18**
<b>RANGE</b>							
N=	356	116	73	239	98		
Duration		.25**	.43***				
Share Sales							
Trust	.16**			.24***	.43***		
Rel. power							
R <sup>2</sup>	.03**	.06**	.18***	.06***	.19***		
<b>IDEAS</b>							
N=	319	96	71	222	95	64	44
Duration							
Share Sales	.13*			.17**	.21*		
Trust	.37***	.31**	.33**	.39***	.43***	.29*	.41**
Rel. power							
R <sup>2</sup>	.15***	.10**	.11**	.18***	.25***	.08*	.17**
<b>NETWORK</b>							
N=	316	108	69	207			
Duration	-.15*						
Share Sales		-.23*					
Trust	.16**	.18*	.25*	.16*			
Rel. power	.14*	.26**	.34**				
R <sup>2</sup>	.06***	.14**	.14**	.03*			

\*\*\* significant at .001, \*\* significant at .01, \* significant at .05

In general the amount of variance explained by the predictor variables is low, indicating the need to consider the contribution other variables in driving direct and indirect functions. The four predictors considered here may need to include other dimensions of relations and the network in order to better explain the range and importance of the functions performed.

The consequences of relationship function on firm and relationship performance also needs further research. Walter et al (2001) used a measure that appears to be confounded with the profit function as their measure of performance. Better conceptualisations and measures of relationship performance are required. In terms of management implications the research underscores the important role trust plays as a basis for effective relationship functioning across a number of different contexts. Other functions are indicated to vary by contexts indicating the need to tailor management of relationships and networks to the context.

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